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VOLUME XVII
NUMBER 8

In this Issue

What Constitutes the
Educated Man?

How The World Talks

The
Westing-School-house



WASHINGTON BOY SCOUTS ON TELEGRAPH'S 100TH ANNIVERSARY
INSPECTING SITE OF THE WORLD'S FIRST TELEGRAPH OFFICE

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New Government
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| Record of Current Educational Publications, October–December, 1931. Martha R. McCabe. (Bulletin 1932 No. 4) | 10¢ |
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SCHOOL LIFE

Issued Monthly, except July and August, by the UNITED STATES DEPARTMENT OF THE INTERIOR, Office of Education
Secretary of the Interior, RAY LYMAN WILBUR Commissioner of Education, WILLIAM JOHN COOPER

VOL. XVII

WASHINGTON, D. C., APRIL, 1932

No. 8

What Constitutes the Educated Man?

By Wm. John Cooper

United States Commissioner of Education

WHAT CONSTITUTES the educated man? Fortunately this question was answered in a general way quite early in western history. An Ancient Greek schoolmaster and rhetorician named Isocrates, whom you must not confuse with the great philosopher who drank the hemlock, tells us that the educated man is, first of all, one who is "capable of dealing with the ordinary events of life by possessing a happy sense of fitness and a faculty of usually hitting upon the right course of action." Please note that nothing whatever is said about a bachelor's degree, or units in mathematics, foreign languages, or even the mother tongue. Perhaps Dr. Albert Bushnell Hart had this attribute in mind when he wrote "Washington was the best educated man in the United States of his day," for our first President's formal education consisted of work with a tutor and short periods in two schools.

I do not pretend to know what percentage of the graduates of our colleges "are capable of dealing with the ordinary events of life—and of usually hitting upon the right course of action." But I think it must be large. And I am encouraged by the number of great commercial and industrial enterprises that wait each year to recruit their staffs from those who receive these baccalaureate degrees. Nor do I know whether those who have acquired such facilities have secured most from books, from their instructors, from their fellow students, or from a combination of these things. But if Washington could begin at 16 to earn his own living and turn out to be the best educated American of his time, I wonder whether we should not expect more from college graduates than this.

I presume that if we could ask Isocrates about this, he would tell us that such power should be acquired by the close of the secondary school period. If we tentatively agree on this, may we not "step up" our qualifications and expect college

men and women to be able to meet the extraordinary events of life. Modern civilization is characterized by the unusual, the unexpected, the extraordinary. For instance, we have been through a war of extraordinary violence. It has left the world staggering under tremendous debts. It has generated bitter hates. It overturned long-established governments. It came near annihilating western culture. Yet educated men of that generation were unable to hit upon a course of action which has been accepted by thinking men and women. The President of the United States who sat at Versailles, actuated by highest idealism, manifesting no element of selfishness for his own country, was unable to write into the treaty the 14 points to which friend and foe both had given lip service. Perhaps history will attribute this failure to the fact that war brought into places of responsibility men who were mirrors for popular hates and bitternesses, that men educated in this higher sense were eliminated from the deliberations.

The Second Criterion

The second criterion laid down by Isocrates for the educated man is that "his behavior in any society is always correct and proper. If he is thrown with offensive or disagreeable company, he can meet it with easy good temper; and he treats everyone with the utmost fairness and gentleness." This may appear to be a lengthy way of describing a gentleman or of saying that the educated man is always possessed of good manners. I think, however, that the meaning is deeper than would appear from such externals. It seems to involve a capacity which relatively few people have, an ability to look through personalities and see the fundamental causes and purposes which actuate their lives.

To the uneducated the poor foreign immigrant from southeastern Europe may be "a wop" but in the opinion of the educated man, Charles W. Eliot, "every healthy and honest laborer, male or

female, and every healthy child added to the population is a gain to the country." The unfortunate black "sold down the river" was a despicable object to most travelers on the Mississippi River; but to Lincoln, the truly educated, he represented "man's inhumanity to man"—a condition that clamored for remedy.

The third criterion laid down by Isocrates is that "he always has the mastery over his pleasures, and does not give way unduly under misfortune and pain, but behaves in such cases with manliness and worthily of the nature which has been given to us." This standard is certainly met by the men who constitute our college athletic team, for they undergo tremendous strain and much actual physical pain in all contests and suffer keen disappointment when a hard-fought game is lost.

Mastery of Pleasures

I wish I could see clearer indications that college men and women to-day were also masters of their pleasures. But I must question our ability to meet this standard when I read in the press of college students arrested for offenses which characterize the nee'r-do-well sons of the wealthy and when the president of a great women's college can be quoted as admitting that her college gets some of the "backwash of lawlessness" which is rampant in our land. And I am worried by the observations of a man who is responsible for employing men to serve one of our great corporations. For C. R. Dooley, personnel manager of the Standard Oil Co. of New York, says that to-day a great many of the applicants who come into his office are not employable. He writes: "Many do not read anything; they are not up to date in their own line; they are just drifting around, looking for a job. They had a good time in many frivolous ways during youth and young manhood, and now in middle life they expect society to come to their rescue. With minds out of the habit of study and bodies neglected

or abused, they face the balance of life as best they can, having to take whatever they can get. We must bring home to the younger people that notwithstanding their good times and fun, they can not expect society to take care of them if they ruin their health and neglect their mental training and fail to appreciate their responsibility for their own future."

Not Spoilt, nor Puffed Up

In the fourth place, the educated man, according to Isocrates, "is not spoilt nor puffed up nor is his head turned by success, but he continues throughout to behave like a wise man, taking less pleasure in the good things which chance has given him at birth than in the products of his own talents and intelligence."

A few months after Theodore Roosevelt had succeeded to the Presidency of the United States, entering the White House at a younger age than any of his predecessors, my own college president, Benjamin Ide Wheeler, who had been a close personal friend of the colonel, was asked what effect the high office was likely to have on the strenuous rough rider. Doctor Wheeler replied: "Theodore Roosevelt is decidedly a personality. It is a personality that no robes or insignia of any office can bemark. In the White House he is the same man precisely that hundreds and thousands have known as governor, colonel, assistant secretary, commissioner, or citizen. If anyone is counting upon President Roosevelt to be a very different man from Theodore Roosevelt, he is leaning on a broken reed. The man is incapable of masquerading."

"Those whose souls," concludes Isocrates, "are well tuned to play their parts in all these ways, these I call wise and perfect men, and declare to possess all the virtues; those I regard as truly educated." Have I set the standard too high? Do American college men hesitate to accept a challenge? I can not justify my position in American education and set a standard lower than was set for ancient Greece.

Can Our College Students Meet These Tests?

I believe few will call it unfair to ask that twentieth century Americans who have been born in a land of plenty, protected from child labor, offered 16 years of formal schooling, meet these pertinent standards!

First. They shall adapt themselves easily, willingly, and with sympathetic understanding into American civilization as they find it, but will during their lifetime endeavor to guide and direct it to the greater comfort of all people and richer, more worth living, on the part of each American.

Second. They will thoroughly appreciate that America is the "land of the free" for the oppressed of the world.

Civics on the Radio

TEACHERS OF civics and government will have the rare opportunity this spring, if they wish to take advantage of it, of having leading United States authorities like Charles Beard and John Dewey lecture to their classes. This can be done by giving students a homework assignment to listen to a radio lecture series, given under the auspices of the National Advisory Council on Radio in Education with the cooperation of the American Political Science Association over the N. B. C. chain.

Such assignments will probably be welcomed by students because the lectures will be keyed to the public interest generated by coming party conventions.

Speakers, subjects, and dates are listed below. Watch your local newspapers for time announcements.

April 12.—The significance of the coming national elections—William Bennett Munro, California Institute of Technology.

April 19.—The significance of our State and local elections—William Bennett Munro, California Institute of Technology.

April 26.—Primaries and the machinery of their operation—Charles E. Merriam, department political science, University of Chicago.

May 3.—The party and the issues—Arthur Krock, New York Times, Democrat, and Julian Mason, New York Evening Post, Republican, interrogated by Ruth Morgan, vice president, National League of Women Voters.

They will set high standards of conduct for those who would be "Americanized" and will display sympathy and toleration for all their fellow men regardless of race, nationality, creed, or station.

Third. They will manifest a Spartan fortitude toward the misfortunes of life and a Christian integrity toward the corrupting influences of a pagan "pleasure cult."

Fourth. That whether in public service or private enterprise they will carry into the highest posts the common sense of Franklin, the clear-headed democracy of Jefferson, the simple honesty and sincerity of Lincoln, the ideals of family life and public service of Roosevelt, and Washington's self-sacrificing devotion to public interest.

Those whose souls are tuned by our colleges to play parts in all these ways, those I regard as truly educated Americans.

Seven schools in the State of Montana have only one pupil, according to official reports to the Federal Office of Education. Thirty-three schools in the same State have only 2 pupils, 40 have only 3, 74 only 4, and 123 instruct but 5 pupils.

May 10.—The campaign and economic planning—Stuart Chase, economist, interviewed by Virgil Jordan, economist, McGraw-Hill Publishing Co.

May 17.—Issues of foreign policy—Charles A. Beard, historian.

May 24.—Issues of domestic policy—Charles A. Beard, historian.

May 31.—Why we have political parties—Arthur N. Holcombe, department of government, Harvard University.

June 7.—Existing party alignment—Edward M. Salt, department of political science, Pomona College.

June 14.—The party convention—Its history, organization, and work—Edward M. Salt, department of political science, Pomona College.

June 21.—Results of the Republican National Convention—A colloquy—William Hard, publicist, and other representatives of the press.

June 28.—The place of minor parties in the American scene and their relation to the present situation—John Dewey, department of philosophy, Columbia University.

July 5.—Results of the Democratic National Convention—A colloquy—William Hard, publicist, and other representatives of the press.

A special manual has been prepared for teachers giving questions for class discussion, reading lists, suggestions for coordinating lectures with classroom work and for making use of the lectures to supplement school work. Teachers may obtain copies of this manual free of charge from the National Advisory Council on Radio in Education, 60 East Forty-second Street, New York. Printed programs for distribution in quantity to students may also be obtained free from the same source.

Leaves Millions for Chilean School

One of the largest technical schools in Latin America is under construction in Chile. The institution, which will be known as the José Miguel Carrera Engineering and Trade School, was made possible by the Santa Maria Foundation, established by the will of the Chilean millionaire, Federico Santa Maria, who died in December, 1925, leaving his whole estate, estimated at about 90,000,000 pesos, for the creation and maintenance of a school of arts, trades, and advanced engineering.



Correspondence Courses Offered High School at Cost

Correspondence courses which may be used to enrich the high-school curriculum may be obtained at actual cost of lesson materials and instruction by mail from the Massachusetts division of university extension. James A. Moyer, director of the university extension division, Massachusetts Department of Education, makes this announcement for the benefit of high-school principals who may wish supplemental curriculum material of this type at nominal costs.

What They Said in Washington

OUTSTANDING AMONG the subjects discussed at the Washington meeting of the department of superintendence, National Education Association were financing education, realism, class size, ability grouping, and the future of education.

Financing Education

"The problem of the financing of education is only in a minor degree a tax problem. The shortage of tax revenue is due chiefly to a shrinkage of the fund from which taxes are drawn. The aggregate income of the people of the United States for the year 1929 was nearly \$90,000,000,000. Preliminary estimates for 1931 indicate that this figure has shrunk to approximately \$50,000,000,000."—Prof. Robert M. Haig, Columbia University.

"How well we remember the arrogance with which business vaunted itself before October, 1929. How often we were exhorted to learn from business management how to conduct schools. The fact is that business was then and is to-day far less effective in rendering genuine service to the Nation than are the schools. I confess I am filled with resentment when I hear the criticism of those who say that the American schools are failures. They are the smug exploiters of society. * * * They have been parsimonious with the schools."—Dean Charles H. Judd, Chicago University.

"However the national economy may vary or whatever fiscal adjustments may need to be made, the very first obligation upon the national resources is the undiminished financial support of the public schools. We can not afford to lose any ground in education. That is neither economy nor good government."—President Herbert Hoover in a letter to Milton C. Potter, superintendent, Milwaukee, Wis., newly elected president of the department of superintendence.

"What is happening to the public schools? A brief survey of the conditions was made last year by the National Education Association. This is what was found:

"1. An unprecedented increase in school enrollment, due to lack of opportunities for employment, and a consequent increase in the demand on the public schools; but, in spite of a greatly increased demand, over two-thirds of the city school systems are forced to operate on reduced budgets.

"2. Many schools closed, especially in rural districts, and the school year shortened in many other districts.

"3. Educational services that have been regarded necessary have been dis-

continued or curtailed; for example, kindergartens, night schools, summer schools, health work, playgrounds and recreation centers, supervision, special classes for handicapped children, and manual and industrial courses.

"4. The replacement of experienced and competent teachers by inexperienced ones at lower salaries.

"5. The reduction of teachers' salaries in many places to a point from which they will not recover for a generation.

"6. Increase in size of classes and of the teaching load to a point which threatens the efficiency of instruction.

"7. The suspension of building programs sorely needed in many communities to relieve overcrowding and to give the children decent and safe housing."—Edwin C. Broome, superintendent, Philadelphia, Pa., retiring president.

"If our work is interdependent the universities can not without protest watch a major operation performed on the schools, which, to judge by its present rate and direction, seems more likely to kill the patient than to profit him or the community."—President Robert M. Hutchins, University of Chicago.

The Demand for Realism

"Unless and until we permit or rather encourage the schools to abandon the following of traditions which have no relation to existing social realities, our thinking in matters of the greatest public concern, including peace and war as well as industrial prosperity and depression, will continue to be thoroughly stupid and our leaders will be such only in the sense in which the blind lead the blind."—Prof. John Dewey, Columbia University.

"It would be the most serious form of hypocrisy for the school to exhort pupils to be sincere, intelligent, and courageous in facing the world and then itself to practice insincerity, ignorance, and cowardice in the making of its curriculum."—Excerpt from the department's new Character Education Yearbook, quoted by Mrs. John K. Norton, National Education Association research staff.

"Truth lies in the frontier of thinking, and to bring it to the masses is a perilous task. The mission is not for the weak or the fearless. It is a dangerous thing to tell the truth, but only the truth shall make us free."—Virgil B. Wiley, superintendent, Dover, Del.

Class Size

"The small class in the secondary school can not, as a rule, in the light of present evidence or of sound educational objectives, be justified. In 35 published

experiments examined, 11 showed an advantage in larger classes, 20 revealed no differences in results, while only 4 showed the smaller classes as being superior. In all of these experiments, the only measurement was that of subject-matter achievement."—M. R. Keyworth, superintendent, Hamtramck, Mich.

Ability Grouping

"It is probable, too, that segregation of classes on the basis of ability will not be as popular as was once the case with us. The intellectual advantages have not proven to be as large as we had expected and the unsatisfactory emotional consequences have been far greater than we had anticipated."—Henry Suzzalo, president Carnegie Foundation for the Advancement of Teaching.

"Homogeneous grouping, special classes, and the unit assignment form a kind of trinity, a sort of three-in-one answer of the Nation's outstanding schools to the problem of providing for individual differences."—Roy O. Billett, National Survey of Secondary Education.

"A critical examination of the more expert opinion and research devoted to ability grouping indicates that decisive evidence is still lacking concerning its ultimate desirability."—Prof. Fred C. Ayer, University of Texas.

The Future of Education

"The remedy * * * is to effect improvements in instruction which will produce an optimum degree of skill (in writing, reading, spelling, arithmetic, composition) in a fraction of the time now required. Recent research suggests that this result is entirely possible."—Prof. Arthur I. Gates, Columbia University.

"An uneducated people could neither make nor use the great variety of goods America produces. We have not yet approached overproduction in education."—State Superintendent James N. Rule, Pennsylvania.

"To conceive of schooling as a mere part of the whole and continuing process of education will do more than correct some of our hurtful, false assumptions, such as worrying unduly over the fact that a child does not learn here and now, and as fast as we wish, all that we have set up for him to acquire on the basis of some average or standardized expectation. It will put the emphasis on learning rather than teaching. Schooling will become mere self-education under teacher stimulation and assistance. In fact the teacher under the new régime will become a supervisor of learners, and what a revo-

lution would result from this changed attitude and point of view. No need for teachers to be omniscient, but merely omnipresent. Teachers and learners would then be permitted to learn something together. The teacher's ignorance would not have to be concealed, shamefully and too often deceitfully."—Henry Suzzalo.

"In simpler days the quack spoke only to those he could gather about the end of his wagon; now his voice may reach every fireside. Whether his selfish aim is to cater to human ills or economic disorder or to breed dissatisfaction is immaterial. Unless his audience is immunized by education and disciplined in self-control, he may be the percussion cap of the explosion."—Secretary Ray Lyman Wilbur, Department of the Interior.

Out of Gray Covers

Rarely do more than half a dozen Federal Office of Education representatives address major sessions or section meetings of the National Education Association winter convention. This year more than 25 regular and survey staff specialists were on the program.

This remarkable increase reflects the larger contribution which the Office of Education is now making to education's progress in the United States. The majority of the speaking corps were experts engaged on the three national surveys now under way, (1) secondary education, (2) education of teachers, and (3) school finance. They were reporting to interested groups the progress and the findings of their inquiries. They were answering school men's questions.

Educators and citizens are increasingly critical of surveys that never get out of gray covers into action. Appearance of these speakers on National Education Association programs shows one method by which Office of Education surveys get into action. United States Commissioner of Education William John Cooper also plans a series of regional survey follow-up conferences composed of persons who are in positions from which changes recommended by new facts can be directed. He already has invitations for a number of such conferences to work on the facts revealed by the National Survey of Secondary Education, which ends June 30, 1932.

Appearance of the large number of Office of Education representatives on the National Education Association program and the conference plans reveal that the familiar gray-covered bulletins will, in the future, provide but one of many channels for disseminating the important facts on education which the Federal bureau gathers.

A New Reference Service

By Bess Goodykoontz

Assistant United States Commissioner of Education

WHAT RECENT STUDIES have been made in junior high school curriculum?

Are there any studies of homogeneous grouping in progress?

How may copies of unpublished masters' theses be secured?

Inquiries similar to these have urged upon the Office of Education a new reference service, that of maintaining a file of all doctors' and especially significant masters' theses in education for the use of students of education. Last year Commissioner Cooper wrote to a number of deans of schools of education asking whether it would be of service to those who direct graduate research and to graduate students themselves if a copy of each thesis were deposited in the library of the Office of Education, and whether their respective schools could cooperate in such an undertaking. The replies suggested a number of values in such a plan, and expressed a general willingness to help in getting it into operation. A few of the comments on the proposal follow:

Opinions of Deans

It would be worth a great deal to us to know that all copies of doctors' dissertations in education from this time on are on file in the Office of Education and that we could thereby always obtain from the Office of Education information concerning the phases of any subject which have already been covered.—C. J. ANDERSON, dean of the School of Education, University of Wisconsin.

I think your idea of collecting copies of masters' and doctors' theses at the bureau a very good one. In my opinion the greatest value will prove to be historical. For example, think how worth while such a collection of these would be if we had them for the past 30 years. In 50 or 100 years, such a collection would be one of the most interesting and unique bodies of materials to be found anywhere. No other library in the world would have the same materials.—JOHN C. ALMACK, School of Education, Stanford University.

In answer to your questions I would say, first, it would be quite worth while to have copies of all doctors' dissertations in education from the various graduate schools over the country filed with you in Washington, provided, of course, that your office would furnish upon request to such schools of education as ours information gathered from these theses as to what has already been done on certain problems on which graduate students may hereafter desire to write theses, either for the master's or for the doctor's degree. It would, I am sure, be possible for this institution to require all candidates for the master's and doctor's degrees to furnish to your office a copy of their dissertations or theses.—JOHN W. WITHERS, dean of the school of education, New York University.

We feel sure that it would be desirable to make a collection of theses in education at the library of the Office of Education. We shall be glad to put the Office of Education on our mailing list for copies of all education theses which are published.—CHARLES H. JUDD, director of the school of education, University of Chicago.

The faculty of the department of education at Yale feels that it would be very much worth while to have assembled in your office copies of doctors' dissertations in education. In case you decide to pursue this plan we shall be very glad to arrange to place on file in your library the dissertations of our students.—CLYDE M. HILL, chairman of the department of education, Yale University.

List of Theses Published

Accordingly the Office of Education has invited schools of education and graduate schools to forward a copy of each doctor's thesis in education and any outstanding masters' theses completed during the year 1930-31 for deposit in the library of the Office of Education. The response has been very generous. Approximately 250 theses have been received from 20 institutions. One hundred and eight of them are printed; the others are in manuscript. Some are bound in their school's colors; others are in binders. They have been catalogued, annotated, and listed in the first *Recent Theses in Education*,¹ which has just come from the press. Each of the theses, whether printed or in manuscript, is available for loan through university or other libraries, and a special thesis section in the Office of Education is open to research students.

The cooperation of schools of education has varied with the different institutions. In some, individual graduate students have sent in their theses. In others, professors in charge of graduate work have written to students who have recently completed their theses, forwarding the Office of Education's request. In still others, steps have been taken to make the filing of a copy of the thesis in this office one of the requirements for the fulfillment of the degree. A few universities have generously donated from their supply copies required for deposit in their own libraries.

It is hoped that with a continuation of this generous support, the office may help to make many significant contributions to educational literature available, and may have more adequate information from which to draw in answering the inquiries of research workers concerning recent studies.

¹ *Recent Theses in Education*, Pamphlet No. 26, is available without charge from the Office of Education, Department of the Interior, as long as the limited free supply lasts.

How the World Talks

By Florence C. Fox

Associate Specialist in Elementary Education

ONE HUNDRED years ago in May a great idea was born in mid-Atlantic. Never did a vacation produce greater results than the month of idleness which the slow-sailing packet ship *Sally* enforced on a young American returning from Europe. Because he had nothing else to do, Samuel F. B. Morse conceived the plan of sending messages over wires by electricity.

This idea has been called the most important one ever conceived in the mind of man. Certainly it has been far-reaching in its effect. Following along behind it through the century have come the telephone, wireless telegraphy, the radio, and television.

To the teacher.—It is a fitting time for us on this one hundredth anniversary to review the history of the different methods used in communication and to honor the man who played so important a part in the development of communication.

The subjects listed in this program are arranged according to the methods used in communication. They are designed for particular grades, (1) signals for second and third, (2) carriers for fourth and fifth, and (3) messages by electricity for fifth and sixth, if the teacher so desires, or the entire program may be given by pupils in any one grade. Space permits only the barest outline. References given under each subject are to United States Government bulletins¹ and other publications obtainable at little or no expense which will enable teachers to enrich the program.

Things to do.—The programs will be greatly enhanced if certain activities are introduced to illustrate the subject matter; under signals, a Boy Scout with flags to spell out a word, or a boy dressed as an Indian to talk with the sign language; under carriers, a pigeon in a cage to illustrate this type of service, etc. Pupil-made posters of an Indian runner, a pony express, the stage-coach, steamship, railroad train, and air mail plane may be exhibited while the pupil recites the text which the posters illustrate.

If possible a telegraph wire with transmitter and receiver, borrowed from the school laboratory, may be rigged up on the stage and a message sent to illustrate the telegraph, or a primitive telephone of tin cans and cord may be used for the telephone.

Fire-and-smoke signals.—In the early days the Indians talked by fire-and-smoke signals. They knew how to build a fire

Samuel Morse and the Cave Man

Inventors strive to increase the range of men's eyes, ears, legs, and voice. The cave man could halloo across a valley; Indians signaled from hilltop to hilltop with fire; African native drums still send jungle telegraph messages; Morse's great step sent man's word but not his voice around the world; radio achieves almost the ultimate. With its magic the cave man's descendant can shout completely around the world in a fraction of a second. Television, the ultimate achievement, will make it possible for man to see as well as shout around the world.

For teachers wishing to dramatize communication's rise on the hundredth anniversary of Morse's invention, this program outline is suggested.

that sent up a long column of smoke. An Indian stood by the fire on top of a hill and swung his blanket or shield through the column of smoke, thus cutting the column into sections. Anyone a long distance off could read these signals and know what the Indian was trying to say.²

Sign language.—Sometimes the Indians sent messages by making signs. Breaking a stick meant strength, courage, defiance, and sometimes a dare or challenge. Placing two fingers on either side of the head

meant "wolf" and drawing a finger across the forehead meant a man wearing a hat, or a "white man."³

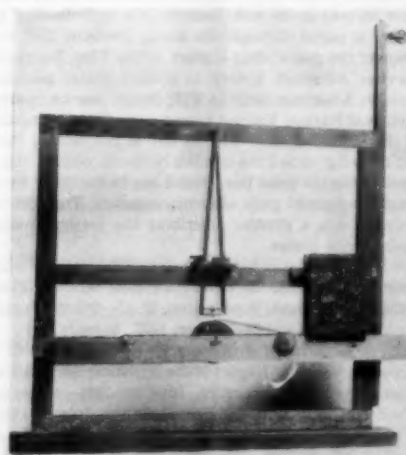
Deaf and dumb language.—Deaf and dumb boys and girls used to converse together with the sign language, although they now practice lip reading. They spelled out words by gestures, using their fingers, arms, and hands. They talked together as rapidly as children can do who hear and speak.⁴

Signal corps.—Have you ever wondered how troops in battle, sometimes 250 miles apart, are moved into position as one unit? This is accomplished with signals used by the Signal Corps, which is sometimes called the "eyes and nerves" of the service.⁵ Flags are among the devices for sending messages this corps employs. Semaphore flags are exactly alike and the positions in which they are held indicate letters of the alphabet. One of the hardest tasks a Boy Scout has to learn is his signal code, but he becomes so skillful that he can send messages quickly.⁶

The heliograph.—The heliograph is another signaling instrument. It can only be used during the daytime when the sun is shining. By means of mirrors, long beams of light are sent out and their messages are recorded by the length of the flashes, regulated by a shutter, now short, now long, like the Morse code in telegraphy. The heliograph is occasionally used for signaling in times of war and by the United States Coast and Geodetic Survey for measuring distances.

Indian runners.—Among the first of the message carriers were Persian postmen and Indian runners. They were especially trained for their work and could run long distances in a very short time.⁷ Rabunta was a famous Indian runner who carried to Powhatan the news of Capt. John Smith's capture by the Indians.

Parcel post.—Parcel posts were known and used by the Aztec Indians. These highly civilized tribes distributed throughout the Indian villages by runners the fresh fish that were caught in their fishing grounds.



Courtesy of the National Museum

THE MORSE RECEIVER

The original of this part of the first telegraph instrument made and used by Mr. Morse is in the National Museum, Washington, D. C. The message is registered on a strip of tape in dots and dashes as it is tapped off on the sender.

¹ U. S. Department of Agriculture. Motion pictures. General Scott sign-language picture.

² Tomkins, William. Universal sign language. San Diego, Calif. 96 p. 800 illustrations of sign language. \$1.

³ New York Institution for the Deaf. The manual alphabet. 160 Second Street, Fort Washington, N. Y. Free to teachers.

⁴ Buoyage system of the United States, 1931. Light-house Service of the United States, 1923.

⁵ Scout handbook, Boy Scouts of America, 1103 Vermont Avenue, Washington, D. C.

⁶ Fox's Indian Primer. New York, American Book Co. 25 cents.

¹ Order all priced Government publications from Superintendent of Documents, Government Printing Office. Those which are free may be obtained from the agency issuing them.

Pigeons.—Perhaps the most remarkable of all message carriers is the carrier pigeon. The speed of an American homing pigeon is marvelous. One bird is known to have made a journey of 1,040 miles without stopping. It has a strong homing instinct and when carried away to a distant point and then released flies directly home. Messages are usually fastened to the pigeon's leg. When released the bird mounts into the air, circles about for a moment, and then darts away toward its home.*

The pony express.—The pony express was organized to carry mail from St. Joseph, Mo., to Sacramento, Calif. The route followed the well-defined trail of the covered wagon. Riders noted for their courage and hardihood were employed. All of them had to face the perils of terrific storms, deep snows, flooded rivers, and the danger of losing their way and being attacked by Indians. For their labors the riders were paid \$50 a month and board. They rode in relays of from 30 to 50 miles, using three horses, and keeping within a 2-minute limit for change of mail and remount. On one occasion young William F. Cody, "Buffalo Bill," made a continuous ride of 320 miles in 21 hours and 40 minutes, 14 miles an hour, 1 mile every 4 minutes.⁸

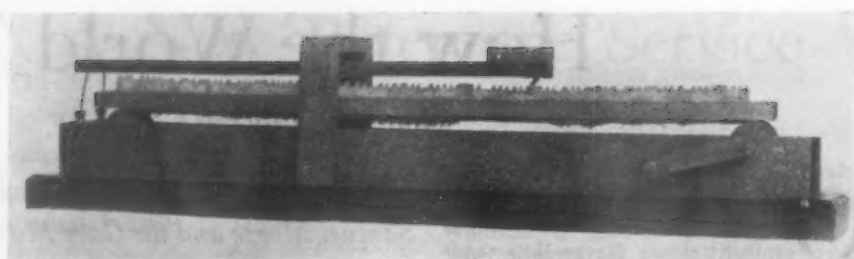
The stagecoach.—These coaches carried both mail and passengers. They were driven through the country in relays of about 10 miles each and stopped at the roadside inns along the way. The driver drove four horses with an outrider on one of the front horses who helped to guide them over the rough places.

Trans-Atlantic mail.—One of the first vessels to bring mail to America from England was the *Speedwell*, which visited the Pilgrim colony in Massachusetts in 1622, the next year after their settlement at Plymouth. The *Savannah*, the first steamboat to cross the Atlantic, carried mail between Savannah and England in 1819. Great ocean steamers to-day have regular post offices where mail is sorted before the ship reaches its destination. Newspapers are published every day on board ship filled with news from both continents received by wireless.

Railroads.—Uncle Sam pays railroad companies to carry mail for him. The through mail from New York to San Francisco runs over a certain railroad, which promises to get the mail to either point at a certain hour and minute. If

* U. S. Department of Agriculture, Washington, D. C. Homing pigeons, their training, No. 1373, F. 5 cents.

⁸ Notes on the Oregon Trail. Office of Education. Bulletin, 1930, No. 27. 15 cents.



Courtesy of the National Museum

THE MORSE SENDER

The original of this is also to be found in the National Museum, Washington, D. C. The alphabet, in the form of steel plates representing dots and dashes, is placed upon a carrier which can be moved back and forth by means of the handle. A key on the bar above the alphabet taps any given letter as it is moved under the key.

the railroad fails to do this, it must pay a forfeit.^{10 11}

Air mail service.—When the stagecoach carried the United States mail from coast to coast, the size of the United States in point of time was 500 hours at 6 miles per hour. In 1931 the railroad train carries the mail over this route in 100 hours at 30 miles per hour, and now the airplane carries the mail in 30 hours at 100 miles per hour. The distance across the United States in point of time shrinks from 500 hours, in the old stagecoach days, to 30 hours in the year 1931.¹²

"A lone plane hurtling through space at nearly 2 miles a minute, ice-sheathed or slippery-wet with fog, its pilot half-frozen and blinded by snow or mist, fighting with every ounce of energy to keep his ship on a true course a mile or more above the earth which he can not

see—such is the service that has made our air mail pilots the best in the world.

"Lindbergh was a pilot on the St. Louis-Chicago contract air mail route, dreaming and planning his New York to Paris flight, but making a living by flying while he studied the vagaries of the air, the tricks of the weather, and the countless problems of putting a plane through any pace demanded of it."¹³

The telegraph.—In 1844 Morse sent his first message over his wire from Washington to Baltimore by the hand of a little girl, Annie Ellsworth. It read, "What hath God wrought?" and consisted of a series of dots and dashes representing the letters of the alphabet.¹⁴

Distance was obliterated by the telegraph wire. On it a signal can be sent around the world in less than a minute. A message can be received in San Francisco from Washington, D. C., in the "wink of an eye." Far-away peoples become close neighbors when daily and hourly news of their affairs are known to the whole world.

Mr. Morse, like many great men, had wide interests. He specialized at Yale in chemistry and natural philosophy. After graduation he went to England to study painting under Benjamin West, and on his return to this country he founded the National Academy of Design, of which he was the first president. He was also interested in photography and the first daguerreotypes taken in this country were made by him.

Just as a pastime he experimented with electromagnetism, and whiled away the tedious hours of an ocean voyage working out his invention of the telegraph. He had the usual difficulty convincing a "backer," in this case the United States Government, of his invention's merits. Stringing half a mile of wire around his room, he invited spectators to witness the sending of a message along an electric wire. Finally Congress gave him \$30,000 and he built a telegraph line from Wash-

¹⁰ How the World Rides. Bureau of Education. Bulletin, 1926, No. 8. 25 cents.

¹¹ Post Office Department, Information Service, Washington, D. C.—The following mimeographed sheets are available from the Post Office Department in Washington, D. C., and will be sent to any address free of charge:

Rural Mail Service; Uncle Sam has his heroes in peace time as well as in war, Bulletin No. 6; Following a letter or parcel through the mails, Bulletin No. 16; Owney, the postal dog; History of the City Delivery Service; American history in United States postage stamps; American mails in 1773; Postal Service paints picture of Nation; Earliest known map of the post roads of the United States—wonderfully out of proportion, this old drawing shows the hamlets of the 13 colonies clustered along the coast line, bound one to the other by a single important path of communication; Post Office Department, a circular describing the personnel and their official duties.

¹² How the World Rides. Bureau of Education. Bulletin, 1926, No. 8. 25 cents. Air mail service. Post Office Department, Washington, D. C. Official Postal Guide for May and September, 1923. 50 cents each.

¹³ U. S. Department of Commerce, Washington, D. C.—Aviation: Annual Report of the Assistant Secretary of Commerce for Aeronautics, June 30, 1931. 10 cents; Civil aeronautics in the United States, July 1, 1931; The Federal airways system, December 1, 1930; General airway information.

¹⁴ NOTE.—These bulletins are replete with airway maps showing scheduled air express routes, scheduled air passenger routes, air mail routes, aeronautical radio communication stations, radio range beacons and maps of intermediate landing fields, and airports on the Federal airways, with other interesting data of use to teachers.

¹³ Mings, Howard. The perils of flying the night mail. The World's Work, August, 1927.

¹⁴ Morse, Edward L. Letters and Journal of S. F. B. Morse. New York, Houghton Mifflin Co., 2 v. II. \$8.

ington to Baltimore. Later he laid the first submarine telegraph across the bay at New York. Representatives of 10 countries voted him \$80,000 as a reward for his labor.

The telephone.—The word "telephone" means "to talk far off." Even without an electric wire two persons can talk along a common cord stretched from one vibrating membrane to another. Punch a hole in the bottom of two tin cans, near the center of each, and stretch a cord between them. The voice will carry over the cord for several hundred feet.¹⁵

Alexander Graham Bell used this principle when he invented the electric telephone in 1876. An electric wire was substituted for the cord and a transmitter was placed at one end of the wire and a receiver at the other. The telephone has been improved until now a man in Chicago can talk in a natural tone of voice to a friend more than 10,000 miles away in Australia.

The wireless.—Marconi is the inventor of wireless telegraphy. He is a celebrated Italian electrician who when a young boy already showed remarkable interest and understanding of electrical science. In 1901, more than 30 years ago, he sent the first wireless messages across the Atlantic. During the war wireless telegraphy was improved with sensitive electric tubes which made it possible to throw the human voice as well as dots and dashes through the air.

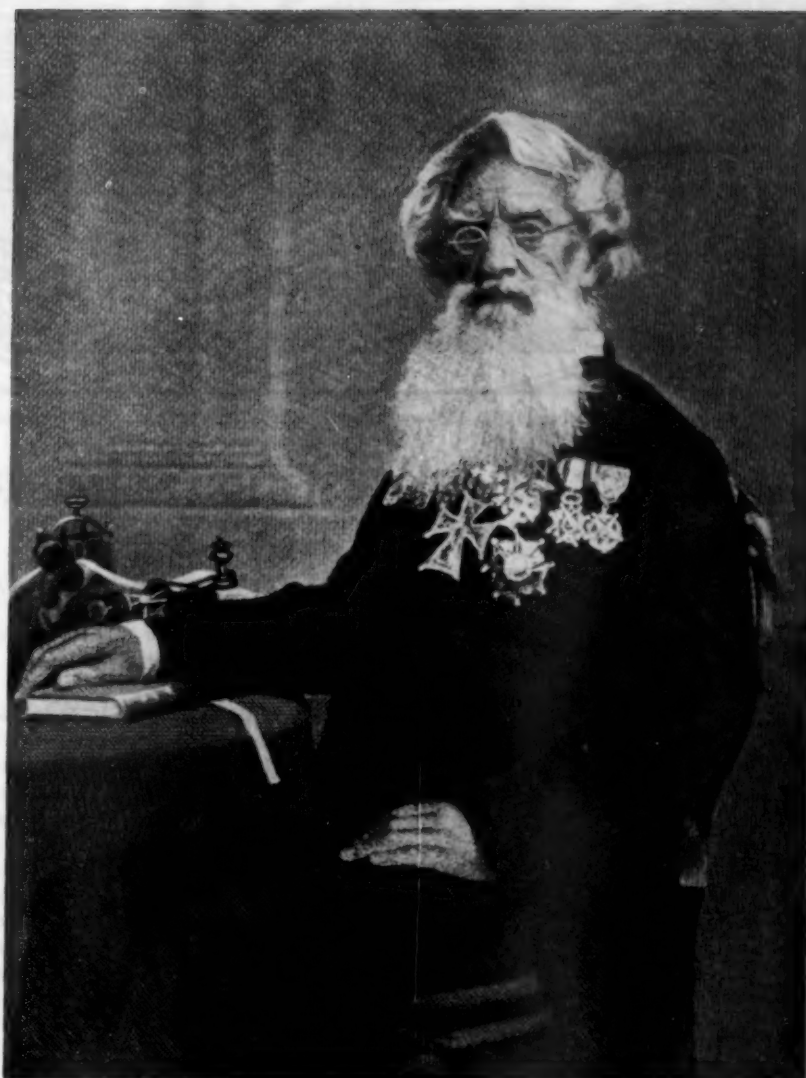
The radio.—The radio was first called "the voice of the sea," because it proved to be the greatest safety device that ocean or lake travel has ever known. SOS is its signal of distress. Ships receiving this call rush to the aid of a stricken vessel.

The direction finder is another use of the radio on board ship. If the weather is foggy and the ship has lost her bearings the direction finder communicating with land stations helps a captain locate his ship's position.

On land the airplane is guided more and more by radio signals. Code letters are projected into the air in a direct beam of light from ground machines about 25 miles apart. As the pilot soars by in his plane he hears the letter and knows whether or not he is on his course and just what point he is passing. Radio brings amusement and entertainment to your fireside, and brings geography, arithmetic, and history to the school.¹⁶

¹⁵ American inventions. (Morse and Edison). The Instructor Literature Series. Dansville, N. Y., F. A. Owen Publishing Co. 10 cents.

¹⁶ Government Printing Office, Superintendent of Documents, Washington, D. C.: How to build a simple radio set; Bureau of Standards Circular 120; 5 cents. Radio facts and principles; Federal Radio Commission 12 R, 11; 5 cents. Mariners and aviators' Charts and Books, Government Printing Office, Communication Chart of the World showing submarine cables, principal landlines, and radio traffic stations—2160a, sheet 1 (Atlantic Ocean), 1930, 40 cents; 2180b, sheet 2 (Indian and Western Pacific Oceans), 1930, 40 cents; 2180c, sheet 3 (eastern Pacific Ocean), 1930, 40 cents.



SAMUEL F. B. MORSE, INVENTOR OF THE TELEGRAPH

St. Louis Library Opens Architectural Room

Designed and decorated in the manner of a private library, the Steedman architectural room in the St. Louis Public Library contains a collection of more than 600 volumes on architecture and allied subjects. The architecture room opens directly into the art room, of which it is an adjunct. A large stained-glass window, a window seat, a fire-place with an elaborately carved wood mantel, and bookcases having doors of leaded glass give the impression of privacy. While the room is intended primarily for the use of architects in connection with their profession, it is open to interested students and investigators. Use of the books by others is allowed, but admission to the room is by card. The collection is a memorial gift, which provides not only for annual increases in architectural collections, but for needed improvements and additions to the library.

Students From Nine Nations Pay Visit

Nine students from Germany, Spain, Hungary, Great Britain, Denmark, New Zealand, Austria, and Estonia, under the direction of Mrs. A. Buel Trowbridge, chairman of the International Student Service committee in the United States, visited the Federal Office of Education and the Office of Indian Affairs in the Department of the Interior. They stopped in Washington after attending a conference held by the International Student Service at Mount Holyoke College, Massachusetts, where students from all over the world had been discussing for more than a week the general topic of the university in a changing world.

The students were: Frauelein Ella Drescher, Germany; Pedro Aranegui, Spain; John Farkas, Hungary; Dr. Heinrich Kaun, Germany; Miss Rosemarie Porter, Great Britain; Erich Goldschmidt, Denmark; Ian Fraser, New Zealand; Walter Ternik, Austria; and Huga Paalman, Estonia.



Illustrations drawn by L. H. Thompson were selected from those submitted by a Carnegie Institute of Technology art class

The Westing-School-House

By C. S. Coler

President, Westinghouse Technical High School

ONLY THE EXCEPTIONAL person is willing to spend half a lifetime getting ready for something. Because of the scarcity of such persons we find in industry many who dropped out of school at the end of the eighth grade, or at the end of high school, or somewhere in between. Many of these young people acquire a *real* purpose in life perhaps for the first time. This leads to the development of a *real* hunger for education.

Most jobs can be made the nucleus of an ever-expanding interest, the means of physical, mental, and moral development, in addition to the usual object of such employment. A youngster becomes interested in building a radio receiver. He surprises us with his dexterity in handling copper and iron and insulation. He amazes us with his knowledge of resistors, condensers, and reactors. He astonishes us with his increasing interest in electricity, in energy, and in the universe about him.

In the shadow of the great Westinghouse plant at East Pittsburgh there has developed an educational institution which harnesses this boy's natural interest in the job and the natural desire for advancement. It is based on the idea

of satisfying the individual need, but it by no means neglects the social need. The individual needs are as varied as the backgrounds of the persons in whom they have developed, and as wide in scope as the aspirations and hopes of these same individuals.

As a consequence, we find in the Westinghouse Technical Night School an institution open to anyone irrespective of sex, creed, race, age, previous education, or present employment. Practically the only requirement of admission is interest. The individual must be sufficiently interested to invest a portion of his earnings and a portion of his spare time for self-development.

Back in 1902, 30 young Westinghouse employees wanted instruction in mechanical drawing. From this interest has developed a 4-year course in engineering in which hundreds of students are enrolled.

Individual Needs Served

A few years later several girls wanted to learn to typewrite. To-day several hundred of girls are studying office practice. They are becoming acquainted not only with the operation of office machines, but with systems of filing, English, spelling and punctuation, and other matters essential to their success.

In a similar way have been added courses in English for foreign born; preparatory courses for those who stopped their general studies too soon; courses in domestic arts, accounting, tool design, and welding—each course designed to meet specific needs.

In the classroom and laboratory each student finds a program which adjusts itself to his individual needs and interests. The instructor's record card lists not only the names of the individuals in his group, but also their jobs. The instructor in general starts with the specific—something with which the individual has become familiar on his job or in his everyday life contacts. From this point the instruction tends toward the more general in ever-widening circles. Starting with a piece of iron, interest is gradually directed back to the atoms of which it is composed and out into space to worlds other than our own. Starting with an individual, his attention is directed to the functional activities of his own mind and in the other direction, to the functional activities of society.

The application of the principle of adjusting the instruction to individual needs is well illustrated in the course in mechanical drawing, which has been planned in a series of graded jobs.





The problems range from the design of an ordinary house brick to the design of a compound die for economically producing a certain type of armature punchings in large quantities. Many different kinds of jobs are provided at each level throughout the course. No matter what his individual background, the new student may start on a job which is in line with his ability. Because of the variety of jobs at each level he may select one which is also in line with his interest. An analysis of the individual interests of the students, based on their free selection of jobs, becomes an important aid in vocational guidance.

In general, only one student works on each job, except where group jobs are provided for the purpose of giving instruction in the coordination of activity and in the value and method of organized effort. The individual advances in his work as rapidly as he is able.

A brief report prepared by the student accompanies each of his drawings. This report offers him the opportunity to make an accurate analysis of his work and to express in good English, specific information regarding standards, processes, shop equipment, and cost accounting. The teacher becomes an executive. The student develops initiative, resourcefulness, a sense of responsibility, and a sense of values. He learns to think independently and to work cooperatively.

Company Letters Used in Course

In the study of economics, the student begins by making an analysis of the ways in which people distribute their time throughout life. The 24 hours available to everyone each day are divided—work, study, recreation, eating, sleeping, and miscellaneous activities. Individual charts based on the personal observations of the students are studied by the group to determine their differences and are then combined into one chart representing the composite observations of the group.

In the business letter writing course, the individual starts with a file containing several well-written letters, representing, let us say, the correspondence with some customer in regard to some matters of company policy. His job is to answer the last letter of the series. The student learns the general principles of English, psychology, business organization, ethics, and salesmanship, as he meets them.

In the machine shop, in addition to experience in operating the various tools, the young worker learns the practices involved in cost estimating, cost calculating, and shop layout. He also discovers the principles underlying quantity production, waste reduction, and good management.

Under this plan the individual develops in line with his interests which, in turn, are coordinated with the interests of others in his group. In like manner he acquires knowledge and skill in many different directions and to a degree which is determined chiefly by his capacity.

From time to time the various courses which constitute a training program are coordinated with each other. Such

coordination is secured by means of comprehensive courses which act either as an introduction to, or as a review of, a group of subjects. In this way the various branches of mathematics and the technical subjects are brought together early in the engineering curriculum in a course known as "Shop problems." Near the end of the term an advanced course known as "Engineering problems" is included.

The following problem illustrates the manner in which the courses bring out the relation between physics, chemistry, electricity, hydraulics, arithmetic, algebra, mechanical drawing, and economics:

A mill is supplied by water from a dam in a stream. The water is conducted from the dam to the mill by means of a wooden aqueduct. It is necessary to find the amount of water used by the mill. To do this a barrel of strong salt solution was introduced at the intake. The solution was allowed to flow from the barrel into the intake water at the rate of 15 gallons per hour. The salt solution was found by titration against silver nitrate to be four and one-half times normal. The water at the outlet of the aqueduct was titrated against $\frac{N}{10}\text{AgNO}_3$ solution before the salt solution started to flow and thereafter every 15 minutes until the amount of salt in the water was found to be constant. The following data were obtained when 100 c. c. samples of the water were tested:

| | |
|-----------------------|-------------------------------------------|
| At start..... | 0.40 c. c. $\frac{N}{10}\text{AgNO}_3$. |
| After 15 minutes..... | 8.7 c. c. $\frac{N}{10}\text{AgNO}_3$. |
| After 30 minutes..... | 10.5 c. c. $\frac{N}{10}\text{AgNO}_3$. |
| After 45 minutes..... | 10.45 c. c. $\frac{N}{10}\text{AgNO}_3$. |
| After 60 minutes..... | 10.55 c. c. $\frac{N}{10}\text{AgNO}_3$. |

(Continued on page 150)



SCHOOL LIFE

ISSUED MONTHLY, EXCEPT JULY AND AUGUST
by The UNITED STATES DEPARTMENT OF
THE INTERIOR, OFFICE OF EDUCATION

Editor WILLIAM DOW BOUTWELL

Assistant Editors { MARGARET F. RYAN
JOHN H. LLOYD

Terms: Subscription, 50 cents per year, in advance; to foreign countries in which the mailing frank of the United States is not recognized, 75 cents. Club rate: Fifty copies or more will be sent in bulk to one address within the United States at the rate of 35 cents a year each. Remittance should be made to the SUPERINTENDENT OF DOCUMENTS, Government Printing Office, Washington, D. C.

SCHOOL LIFE is indexed in Readers' Guide to
Periodical Literature and Education Index

APRIL, 1932

Consider the Personal Pronoun

AS CURIOUS as the customs of the wild men of Borneo are some of the customs of educators—writing educators in particular. One of these is the avoidance of the personal pronoun "I."

That professional educational literature is difficult reading nearly everyone will agree. Most powerful of reader soporifics is the absence of the personal pronoun. In place of forthright "I" appear such awkward masks of self-conscious scientific modesty as "the writer," and "one," and "it is assumed."

The best that can be said for side stepping "I," "me," and "my" is that the scientific ideal requires objective approach. Yet every scrap of manuscript which is not a mathematical table or formula has some subjective element. Since this is true, why not be honest and write "I did this," and "I gathered the data," instead of "The data were gathered." Elimination of the personal element in educational manuscripts gives them the cold inhumanity of an automat restaurant. It contributes also to the popular but mistaken idea that education is dull stuff.

It is too much to hope for a thesis that starts like this: "I have long been interested in the idea of applying the principles of medical technique in diagnosis and prescription to the problem of aiding students failing in reading, arithmetic, or spelling. With the approval of my adviser, Professor Simpkins, I selected the specific subject, The Effect of Diagnostic and Remedial Teaching in Arithmetic Upon Pupil Achievement in Zenith. In the following pages I describe the scope of the problem, sources of information, the methods I used in gathering the data, my analysis of the data, and my conclusions."



The drawing on page 2 of the cover of SCHOOL LIFE for March, 1932, was by Mr. Schaffert, student, Carnegie Institute of Technology.

You Have to Think

"I HAVE CALLED you into assembly," said the principal of a large high school near Washington, D. C., to his students, "to consider an important matter."

"It has been possible to go through life in the United States without thinking very deeply. It has been possible to take the easy paths; to do as others do in our community; to accept conditions as we find them. That time is past. I would be less than honest with you unless I made this important fact clear. Conditions which you will have to face in the next 10 years will compel you to think."

"When I graduated from high school I had the pick of four good jobs. When you graduate from high school you will be lucky if you can find a job. Why is it that your community may have no place

for you? How long will the conditions which brought about this situation last? Can anything be done to change the conditions?

"I'm sure you boys and girls will not accept defeat without a struggle. Something can be done. It is unbelievable that the people of the United States can not master their problems. But I wish to impress upon you that you may get little help from leaders. You need to reconsider the fundamental principles of our society. You must examine critically our methods of living together, our government, our production, our distribution. Your teachers and I will do what we can to bring these central problems before you, but let me impress upon you once more that you must think. For your own salvation you have to think!"

On Memorizing

By HARRY HANSEN

Literary Critic

ABOUT THE TIME when I reached ninth grade in school, which must have been close to the publication of Richard Carvel and *If I Were King*, teachers began to pooh-pooh the idea of memorizing anything. For 100 years memorizing had been the basis of an ordinary education in America and people who knew their history by heart repeated it in the same words. Teachers decided that this did not make for individuality and originality.

So they retained memorizing solely for the multiplication table and began to encourage reading for the essentials and not for the text, asking the pupil to retell what he had read in his own words. We youngsters thought this a great advance over the older system and I recall how I patronized my elders, who had absorbed a great amount of knowledge by memorizing it. I argued—echoing my mentors—that memorizing could be done by dubs but that real thinking was done by men with brains. My mother was indulgent, but when a situation called for an apt expression she could draw on countless authors who wrote in words of flame. I, having nothing but arguments for originality, was compelled to remain dumb.

One teacher, however, used her own method of getting something really fine and cultural into our thick skulls. Every day she chalked up a quotation and asked us to memorize it. She explained its context and its authorship. In the course of one year we garnered a great many nuggets of wisdom by the way.

I remember her suggestion that we keep this up after we left school. I doubt whether any of us ever did. I used to take down bits from my reading now and then and transcribe them in a notebook. But I never again did that little effort at memorizing before breakfast, which was necessary to make them stick.

She had one other trick, which is beside the point, but deserves to be recorded. Every now and then she would produce a Copley print of a famous painting, describe it, and then hang it up for all of us to see. There it would remain for several days. Invariably when I think of the Night Watch I think of that little print. When I think of Sacred and Profane Love I do not think of the original, which I have visited in the Palazzo Borghese, but the print in No. 10. With the pictures went innumerable stories. I shall never forget them.

To-day, I believe, teachers are trying for a golden mean in education; neither too much memorizing nor too little.



Ontario Teaches 12,000 by Mail

More than 12,000 children were taught by correspondence courses provided by the Ontario, Canada, Department of Education last year. The courses were prepared for persons of school age who lived remote from any school, for those who could not attend school in winter by reason of road conditions or school being closed, and for those who were physically unable to attend school and for whom no other means of education could be provided.

How Rochester Raised its Daily Attendance Record

By Herman J. Norton

Director of Health Education, Public Schools, Rochester, N. Y.

DURING THE SCHOOL YEAR, September, 1925, to June, 1926, the bureau of research of the Rochester Board of Education made a study of the absence of school children due to sickness and it was estimated that 389,958 school days were lost in the elementary schools, excluding days lost by kindergarten children.

In September, 1929, our State education department began to distribute financial State aid to the schools of the State on the basis of the average daily attendance of school children. The State allowed 29 cents a day for each child in attendance. If this system of distributing State funds had been in operation during the school year September, 1925, to June, 1926, the Rochester schools would have lost \$116,984 of State aid because of absence due to illness.

During this 1925-26 school year, the average daily attendance of school children was 91 per cent. Since this date, there has been a steady improvement each year in the average daily attendance. Last year, it reached 97 per cent. The estimated cost of absence for all causes during the school year 1929-30 was \$106,990. Approximately 81 per cent of this absence was due to sickness. This means that last year through sickness the board of education and the people of Rochester lost \$86,661.90 of State aid which they would have received if each child had had a perfect school attendance. Of course, we realize that such an achievement is impossible. But how much of this absence for illness is preventable? That is the question.

Increase Number of Attendance Officers

Prior to September, 1926, the board of education employed only 4 attendance officers. In September, 1926, Mr. Keople added 8 officers to his staff and to-day his staff numbers 15. It is fair to say that the efficient work of these officers has played a large part in bringing about the steady increase in school attendance. Of course, there were other factors working toward the reduction of absence from school, such as the principals and teachers concerted efforts, as well as the combined efforts of the school nurses and physicians and health education teachers. All of which goes to show that when a big and worth-while job has to be done and everybody concerned cooperates, desired results are secured.

Let us shift our thinking from the direct financial loss due to absence from school to what we might term the indirect financial loss through retardation in school progress caused by illness and physical defects.

From the United States Department of the Interior, Office of Education, comes the report that in the schools of Bridgeport, Conn., retardation was reduced 50 per cent during five years of vigorous oral hygiene work. The cost of reeducation in 1912 (at the beginning of the campaign) was 42 per cent of the entire budget. The cost in 1918 was 17 per cent of the budget.

In the study of 1,242 school children in New York City by the Association for Improving the Condition of the Poor, they found that boys having no teeth defects showed 7 per cent better attendance than those with such defects and they made 6 per cent more promotions.

Of 12,000 children who had dental defects corrected, in the Chicago schools, it is reported that 70.5 per cent improved in health, 45 per cent improved mentally, and 57 per cent improved in school attendance.

The Russell Sage Foundation in its health study in the New York schools estimated that children suffering from physical defects made 8.8 per cent less progress than did those having no defects.

We have been rather successful in Rochester in our efforts to improve our average daily attendance. It has been raised from 91 per cent during the school year 1925 and 1926 to 97 per cent during the 1929 and 1930 school year. This includes all public schools, elementary, junior, and senior high school.

A number of outstanding preventive and remedial measures have been developed which have helped to improve the attendance record.

Helping Families Find Services Available

The superintendent and deputy superintendent of schools have made the principals, teachers, directors, attendance officers, and parents conscious of the school absence problem through articles in the public press, through appointment of committees to study the problem, and through discussion at principals' and directors' meetings. Principals have initiated their own individual programs for encouraging attendance. Such campaigns have helped considerably.

The board of education has employed special remedial teachers to work with the retarded child in an effort to have him catch up with the educational procession before school is out in June. The staff attendance officers have been keenly alive to the necessity of rendering ever-increasing social as well as health protection and remedial health service to school children and parents.

Whenever a Rochester school attendance officer finds that illness exists in the home and it is, let us say an indigent case, he or she directs the parents to the proper community health agency, the school nurse or clinic or suggests that the school nurse visit the home, size up the situation, and make proper recommendations for following up the case. In case the family is financially self-supporting, she may suggest that they call in the family physician. The attendance officer helps in checking the spread of disease by notifying the school nurse of suspected cases of communicable disease such as measles, mumps, chicken pox, or skin disease. The nurse in turn notifies the city health bureau and it immediately insists that proper protective and remedial measures be followed by the family.

In the common cases of exclusion from school for pediculosis or dirty head, scabies, dirty clothing, or a much needed bath, the attendance officer is a coercive factor in securing cleanliness and better health habits because she is able to impress upon parents that such absences are illegal.

Attendance officers refer needy families to social agencies, thus preventing absence due to lack of clothes, shoes, or inadequate food.

The attendance officer often saves a great deal of school absences due to parents' oversolicitude for their children especially in the kindergarten and primary grades. Parents are often inclined to be lenient in the case of their small children. The attendance officer meets parents' arguments of "rain," "cold," "distance," or "slight headache," by emphasizing advantages of regular attendance or suggesting that the school nurse will promptly send the child home if his condition warrants it.

Again the attendance officer often aids in reducing absence due to family illness. She makes the adjustment which will allow a prompt return of the child to school. Under the present provision, a maximum absence of three days is sometimes allowed an older child when it is necessary for her to work in the home, if a better adjustment is impossible. When family illness seems likely to extend over a longer period, the attendance officers arrange with the family, neighbors, relatives, or social agency for the necessary home adjustments so that the child may

return to school. Sometimes arrangements are made with the school principal and family so that the child may attend her most important classes and be excused for the rest of the school day.

Cutting Down Trivial Excuses

Finally, when a child is about to leave school to go to work, the most frequent cause of delay in securing a work permit is some health problem, for example, carious teeth, infected tonsils, or eye defects needing attention. Attendance officers in these cases explain to parents the need for correcting defects and insist on continued regular attendance until the defects are corrected. In exceptional cases a temporary work permit may be issued at once, after which the attendance officer follows the case to see that corrections are made.

The psychological effect of attendance officers' activities in the community causes parents to use better judgment regarding keeping children from school on trivial sickness excuses.

Since illness is the outstanding cause of absence from school, every attendance officer is vitally interested in the health education program that is being conducted in the schools. If he is not interested and actively so, he should be. Those in charge of the program need cooperation, and certainly a healthy child helps to improve and maintain a high average daily school attendance. Attendance officers should meet with health education teachers and vice versa. They should get acquainted with the objectives, activities, and techniques used by each group and work together to meet the individual health needs of school children.

In Rochester, health education is a 3-section program, namely: Health protection, health teaching, and health development. Each section has its own course of study with definitely outlined objectives, activities, standards of attainment, subject matter, and teaching methods.

The objectives of the health protection program are (1) to detect physical defects for the purpose of correcting remediable conditions; (2) to prevent and control communicable diseases; (3) to recommend such school equipment and practices as will furnish the best possible environment for the health of the pupils and the teachers; and (4) to secure the cooperation of the home in health protection activities.

The objectives in the health teaching program are (1) to develop right attitudes and high ideals toward health and health practices in life situations; (2) to give students information which will help them to improve and conserve their own health; (3) to aid in establishing specific health habits at various age levels; and (4)

to cooperate with parents and others in contributing to the health of the community.

In the health development or physical education program the objectives are (1) physical—to develop organic power, vitality, posture, and neuromuscular skills for meeting life situations; (2) social—to develop traits of citizenship, such as courage, initiative, cooperation, honesty, and courtesy; and (3) cultural—to gain a sympathetic understanding and appreciation of physical laws, rhythm, and achievement, and to develop interest and specific skill in such activities as will be of value in leisure time.

With better ventilation in schools, with better care as to the clothing of school



CORRECTING DEFECTS WHICH CAUSE POOR SCHOOL ATTENDANCE

Dental hygienists at work in the new Benjamin Franklin High School, Rochester, N. Y. Through the development of preventive and remedial measures Rochester raised the average daily attendance in all its public schools from 91 per cent during the school year 1925 and 1926 to 97 per cent during the 1929 and 1930 school year.

children, especially their shoes in cold, rainy, or snowy weather, and by adequate isolation of children with respiratory disorders, absence for illness should be considerably reduced. By vaccination and by daily morning health inspection of all children by the teachers and by the exclusion of suspects, the "common" communicable diseases would become less common. If the school hygiene program is functioning properly there is hardly any excuse for digestive disorders and real headaches, and with adequate dental and medicinal supervision, toothache and eye troubles should almost disappear. With such prevention, sickness from miscellaneous causes would gradually disappear and on the whole we should be able to reduce present absence for illness at least 25 per cent.

Junior High School Subject of Cleveland Report

Fifteen years of experimentation with the junior high school in Cleveland have been reported in the annual report of the superintendent of schools of Cleveland, Ohio, recently published by the Cleveland Board of Education. Describing minutely the various activities of the modern junior high school, the author, R. G. Jones, makes some conclusions and predicts future developments in this comparatively new branch of the public school.

Mr. Jones predicts that new inventions, including television, now nearing perfection, will exert a great influence on the curriculum of the junior high school. He believes, according to the report, that visual aid will continue to become an increasingly important medium for broadening and enriching the scope of the pupil's experience. He says, after several years of experimentation with radio in Cleveland junior high school, that "it is the opinion of those connected with the experimental work that certain desirable educational outcomes reasonably may be expected from radio lessons."



Many Use Deposit Plan to Buy Government Bulletins

Many persons who frequently purchase United States Government publications use the deposit plan of payment which has proven very satisfactory. The Superintendent of Documents reports more than 3,000 deposit accounts in use at the present time.

How can one take advantage of this simple method of paying for publications, arranged especially for convenience?

The only requirement is a deposit of \$5 or more with the Superintendent of Documents, Government Printing Office, Washington, D. C. When a publication is then ordered, the cost is charged against the amount on deposit in the cashier's section of the Public Documents Division and the document is mailed. Robert E. Brooks, cashier, directs the mailing of a bill to the customer, stating the price of the publication purchased, and also notifies the depositor when his account must be replenished.

Deposit accounts do away with much delay which might otherwise be caused in obtaining prices of publications desired, and also eliminate the necessity of a remittance with every order.

After making a deposit, one simply requests the publication he desires, and mentions that he is a depositor.



Federal Office of Education publications are in demand. More than 1,150,000 copies of publications from this bureau went out to the education world during the past year.

Trends in Summer Sessions for Teachers

By Frank K. Foster

Specialist, National Survey of Education of Teachers

ARE SUMMER SESSIONS fulfilling the responsibilities which new economic and social factors in our changing civilization have placed on all schools?

To meet the challenge of change, schools have been forced to take inventory of their practices. The national survey of education of teachers, conducted by the Office of Education, is attempting to ascertain policies and practices in all institutions which educate teachers. The findings throw light on trends in summer schools as well as other departments. Cooperation of directors of summer sessions makes possible at this time presentation of pertinent facts on purposes of summer schools.

The summer session has become one of the important factors in the education of teachers. Relatively, the summer session is a recent development as an agency of teacher education. Antecedents of the present summer session have been described by Willoughby¹ and Judd.² The rapid extension of the summer session idea from the early beginnings of Louis Agassiz in 1872 to the present time is astounding. In the summer of 1931, a report³ shows 654 summer schools enrolling 425,100 students. Of these, 273,148 were enrolled in courses in education; this number represents 28.6 per cent of the total number of teachers in the United States.

Influences at Work

Several factors have influenced the rapid development of the summer session. Paramount among them is the elevation of teaching from the artisan level toward a professional status. Standardizing agencies, increased certification requirements, salary schedules, increased tenure, retirement provisions, and public demand have stimulated this professional trend. Gradually, the increased standards have become legal requirements. Continuation in teach-

ing on the part of teachers in service depends upon the individual's ability to satisfy the prescribed higher standards of training. Competition, caused by an ever-increasing supply of young teachers who have been educated on the level of higher requirements for teaching, forces the in-service teacher to acquire comparable training. The in-service teacher is often unable to take a year's leave of absence for the required training. The opportunity offered by summer sessions to satisfy the increasing educational requirements while continuing in service is seized by teachers whose preparation is below the required minimum.

Emphasis upon the quantitative factors of degrees, credits, or so many weeks of attendance upon summer sessions has been the chief criterion in the satisfaction of increased requirements. The ultimate limit of prescribed standards on a quantitative basis can not be extended indefinitely. Although the final outcome of elevated standards implies an increase in teaching efficiency, there is some doubt whether this result has always followed. A shift in emphasis from the quantitative standards which have received so much attention may alter summer session functions. If emphasis continues to be placed on degrees and credits as such, the present educational standards for teaching will soon be satisfied by most in-service teachers. Those functions of the summer session which pertained to increasing the professional education of teachers in the past will assume less importance. Either standards of professional preparation for teaching will have to be increased or emphasis must be shifted to qualitative values in teaching performance, if the summer session is to continue as the chief means for the professional advancement of in-service teachers. To know the fundamental purposes of the present summer sessions will help one to comprehend the present contribution of the summer session toward the professional education of American teachers.

What the Directors Reported

An inquiry was addressed to the directors of the 1931 summer sessions. At the time this article was prepared, returns had been received from 333 directors in five

types of public and private institutions which educate teachers—of universities, colleges, junior colleges, teachers colleges and normal schools. Directors indicated the relative importance of the various purposes for which their present summer sessions are organized. (See Table 1.)

The bachelor's degree has always been an end point in collegiate education. The arbitrary prescription of the baccalaureate as a basis for teacher certification has defined one of the chief purposes of the summer session in universities, colleges, and teacher colleges. Curricula which lead to the bachelor's degree in the various teaching subjects have almost universally prescribed varying degrees and types of professional work. Under these circumstances, the importance of the bachelor's degree and the emphasis on professional education courses in the summer sessions of universities, colleges, and teachers' colleges are not surprising. Definite evidence of the importance of the bachelor's degree as a basis for teacher certification is disclosed by the rapid disappearance of the normal school by conversion into 4-year teachers' colleges granting the bachelor's degree. Existing normal schools are making plans for the bachelor's degree through summer session offerings. Although junior colleges are not primarily an agency of teacher education, several of these institutions emphasize professional work for teachers in their summer sessions.

The prescription of higher standards for certain types of school administrators and supervisors has increased the demand for work which leads to the master's degree and even the doctorate. The large proportion of universities which emphasize graduate work in the summer sessions indicates a distinct demand for graduate degrees. As many as 11 teachers' colleges are granting the master's degree, the work assuming primary importance in the summer session.

Continuation of the program of studies of the regular year is the only other dominant purpose of the summer sessions in all types of institutions. The limited emphasis on experimentation and research with method and content of teaching subjects probably reflects the influence of the traditional nature of work toward

¹ Willoughby, W. W. *The History of Summer Schools in the United States*. Commissioner of Education Report, 1891-92, Vol. II, pp. 893-957.

² Judd, C. D. *The Summer School as an Agency for the Training of Teachers in the United States*, George Peabody College for Teachers, Contributions to Education, No. 3, Ch. II, Nashville, Tenn., 1921.

³ Adapted from the Journal of the National Education Association: *Growth of Summer School Attendance*, Vol. XX, No. 8, November, 1931, p. 298.

degrees. Recognition of the opportunities for a distinct contribution toward practical teacher education in terms of actual teaching problems is the real challenge before the directors of summer sessions.

Our Year-Around Colleges

The differences in importance between purposes of the summer session and the same purposes in the regular academic year were tabulated and no significant differences were obtained. Further evidence of this agreement was obtained by comparing the importance of each purpose of the summer session with the importance of the same purpose of the regular year. Three categories were stated as follows: (a) Of primary importance in both summer session and regular year; (b) of primary importance in summer session and of secondary importance in the regular year; and (c) of secondary importance in the summer session and of primary importance in the regular year.

The only significant differences found were that summer sessions placed a slightly greater importance on "professional courses meeting the requirements for the extension of teachers' certificates" and "opportunity for inservice teachers to obtain further professional work." The agreement on the purposes which pertain to the administrative patterns of the

summer session and the regular year is significant. Every indication points toward the organization of the summer session as an integral part of the regular academic year. (Data in support of these findings will be published in the final report of the national survey of the education of teachers.)

Trends in demands for certain types of work during the summer session were considered an important index of changing purposes. Directors of summer sessions were asked to indicate the demands for certain types of work in their summer sessions from 1926 to 1931. Three mutually exclusive categories were listed as follows: (a) No noticeable change; (b) increasing demand; and (c) diminishing demand.

Returns are given in Table 2.

What Teachers Want at Summer School

The less formal character of the summer session offers the greatest opportunity for adaptation to changing needs. In the absence of traditional practices, every opportunity is present for a unique service. Without doubt, the summer session is of real benefit to the student who, for economic reasons, is forced to shorten the period of preparation. The in-service teachers of our schools who wish either to meet increased standards

or to keep abreast of the newer movements in education, welcome the summer session. Many summer session directors report an increasing demand for undergraduate work for credit. An exception is noted in universities which report a slight decrease which is compensated for, however, in the tremendous increased demand for graduate work. The increasing demand for professional education courses is sufficiently widespread to anticipate a continued demand for this type of work. Competition will probably increase the demand for professional courses as long as an oversupply of certified teachers exists. The general increase in demand for graduate work during the summer session denotes a teacher interest beyond the minimal requirements of present certification standards. Many factors have altered demands and the prestige of certain institutions has played no small part.

Work in music education, physical education, library training, and research and experimentation, although limited, is on the up-grade in demand. Absence of any extensive decrease in demand for all types of work in the several types of institutions reveals opportunities in adapting summer sessions to obvious needs.

Brevity of the summer session and the absence of tradition offer an opportunity

TABLE 1.—Number of institutions reporting each purpose as of primary or secondary importance in the organization of the summer session

[The table should be read as follows: Of the 65 universities reporting, 32 (column 2) indicated "continuation of program of the regular year" as of "primary importance" in the summer session, and 19 (column 3) indicated the same purpose as of "secondary importance." The difference between the total reports on primary and secondary importance and the number of institutions reporting represents either no answer or no indicated importance. In the case of "continuation of program of the regular year" for the universities, 65 less (32+19) equals 14 no answers or no indicated importance for that purpose. Read the data opposite each purpose under each type of institution in the same manner.]

| Purposes of summer sessions | Number and types of institutions reporting | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------|----------------|----------------|--------------------|----------------|----------------------|----------------|-------------------|----------------|
| | 65 universities | | 137 colleges | | 28 junior colleges | | 84 teachers colleges | | 19 normal schools | |
| | P ¹ | S ² | P ¹ | S ² | P ¹ | S ² | P ¹ | S ² | P ¹ | S ² |
| | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 1. Continuation of the program of studies of the regular year..... | 32 | 19 | 63 | 35 | 19 | 6 | 52 | 19 | 10 | 5 |
| 2. Convenience of administration by dividing the year into four equal parts..... | 3 | 13 | 2 | 19 | 1 | 2 | 5 | 26 | 2 | 2 |
| 3. Regular year students an opportunity to make up back work owing to absence, failure, etc..... | 14 | 36 | 32 | 74 | 5 | 15 | 10 | 50 | 0 | 14 |
| 4. Opportunity for in-service teachers to obtain: | | | | | | | | | | |
| (a) Preprofessional work (junior college)..... | 25 | 14 | 27 | 16 | 20 | 1 | 29 | 12 | 8 | 0 |
| (b) Bachelor's degree..... | 49 | 9 | 96 | 20 | 2 | 0 | 73 | 8 | 3 | 2 |
| (c) Master's degree..... | 50 | 5 | 26 | 7 | 0 | 0 | 11 | 0 | 0 | 0 |
| (d) Doctor's degree..... | 22 | 7 | 2 | 3 | 0 | 0 | 1 | 0 | 0 | 0 |
| 5. Undergraduate work for those who wish to reduce the period of residence (regular year students)..... | 27 | 28 | 51 | 56 | 12 | 6 | 30 | 41 | 5 | 10 |
| 6. Graduate work for those who wish to reduce the period of residence (regular year students)..... | 34 | 20 | 13 | 10 | 0 | 2 | 3 | 7 | 0 | 2 |
| 7. Opportunity for superintendents, principals, supervisors, teachers, and others who desire further professional work (no credit desired)..... | 25 | 20 | 16 | 43 | 5 | 3 | 17 | 32 | 3 | 9 |
| 8. Courses for persons who seek intellectual improvement (no credit desired)..... | 7 | 33 | 8 | 46 | 3 | 6 | 3 | 33 | 1 | 9 |
| 9. Professional courses meeting the requirements for the extension of teachers' certificates without examination..... | 32 | 18 | 75 | 33 | 18 | 6 | 43 | 32 | 6 | 7 |
| 10. Opportunity for teachers to raise the grade of the teaching certificate now held..... | 30 | 22 | 70 | 38 | 14 | 7 | 48 | 18 | 8 | 5 |
| 11. Offerings for out-of-state students who will later transfer their credits to an out-of-state institution..... | 1 | 35 | 6 | 44 | 2 | 5 | 1 | 31 | 0 | 3 |
| 12. Opportunity for students to remove deficiencies in entrance requirements..... | 1 | 20 | 8 | 35 | 5 | 8 | 2 | 24 | 0 | 3 |
| 13. Special offerings not given in the regular year, e. g., coaching, vocational courses, institutes, etc..... | 10 | 32 | 16 | 26 | 2 | 2 | 5 | 36 | 2 | 4 |
| 14. Facilities for experimentation and research with method or content of teaching subjects..... | 10 | 12 | 7 | 16 | 1 | 2 | 7 | 19 | 0 | 4 |
| 15. A try-out period for high-school graduates who wish to acquaint themselves with institutional practices before entrance upon the work of the regular year..... | 4 | 18 | 0 | 20 | 0 | 6 | 0 | 20 | 0 | 0 |

¹ P=Of primary importance in summer session.

² S=Of secondary importance in summer session.

TABLE 2.—Number of institutions reporting no noticeable change, increasing demand, or diminishing demand for the several types of work offered in the summer sessions from 1926 to 1931

[The table should be read as follows: Of the 65 universities reporting, 15 (column 1) indicated no noticeable change in demand for undergraduate work for credit, 35 (column 2) indicated an increasing demand, and 10 (column 3) indicated a decreasing demand. The difference between the total of the cases in all 3 columns opposite a given type of work and the number of institutions reporting represents either no answer or no indicated consideration in the case of "undergraduate work for credit" for the universities, 65 less (15 plus 35 plus 10) equals 5 no answers or no indicated consideration for that purpose. Read the data opposite each type of work under each type of institution in the same manner.]

| Types of summer session work done since 1926 | 65 universities | | | 137 colleges | | | 28 junior colleges | | | 84 teachers colleges | | | 19 normal schools | | |
|-------------------------------------------------------------------------------------------------------|----------------------|-------------------|--------------------|----------------------|-------------------|--------------------|----------------------|-------------------|--------------------|----------------------|-------------------|--------------------|----------------------|-------------------|--------------------|
| | No noticeable change | Increasing demand | Diminishing demand | No noticeable change | Increasing demand | Diminishing demand | No noticeable change | Increasing demand | Diminishing demand | No noticeable change | Increasing demand | Diminishing demand | No noticeable change | Increasing demand | Diminishing demand |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1. Undergraduate work for credit..... | 15 | 35 | 10 | 28 | 100 | 2 | 8 | 16 | 1 | 22 | 57 | 3 | 4 | 11 | 1 |
| 2. Graduate work for advanced degrees..... | 2 | 55 | 0 | 2 | 35 | 1 | 0 | 0 | 0 | 1 | 19 | 0 | 1 | 2 | 0 |
| 3. Make-up courses for "incompletes" or "failures" from the regular year..... | 29 | 8 | 17 | 63 | 27 | 24 | 13 | 7 | 1 | 41 | 8 | 24 | 9 | 1 | 4 |
| 4. Courses which meet requirements for teachers' certificates without examination..... | 20 | 27 | 11 | 31 | 62 | 17 | 4 | 10 | 2 | 16 | 30 | 27 | 3 | 8 | 8 |
| 5. Professional courses for in-service teachers, supervisors, principals, and superintendents..... | 11 | 49 | 1 | 34 | 62 | 6 | 6 | 8 | 0 | 22 | 34 | 3 | 3 | 14 | 0 |
| 6. Liberal arts and science courses of general type, e. g., Political economy, Anthropology, etc..... | 25 | 28 | 2 | 46 | 46 | 3 | 13 | 3 | 0 | 27 | 32 | 3 | 5 | 3 | 0 |
| 7. Special cultural courses in which museums and similar agencies are utilized..... | 25 | 5 | 3 | 28 | 3 | 1 | 6 | 1 | 0 | 25 | 14 | 3 | 4 | 1 | 0 |
| 8. Field trips in geology and geography..... | 23 | 13 | 6 | 26 | 12 | 2 | 4 | 2 | 0 | 29 | 22 | 1 | 5 | 6 | 0 |
| 9. Supervised foreign travel..... | 7 | 4 | 5 | 7 | 0 | 5 | 3 | 0 | 0 | 13 | 3 | 2 | 1 | 1 | 0 |
| 10. Music education..... | 18 | 24 | 3 | 29 | 37 | 7 | 3 | 10 | 3 | 24 | 32 | 3 | 8 | 4 | 0 |
| 11. Physical education, health, and sports..... | 14 | 30 | 4 | 18 | 33 | 5 | 4 | 11 | 0 | 13 | 50 | 2 | 5 | 5 | 1 |
| 12. Library training..... | 7 | 23 | 3 | 13 | 29 | 0 | 2 | 7 | 1 | 16 | 36 | 3 | 6 | 3 | 0 |
| 13. Research and experimentation..... | 9 | 34 | 0 | 8 | 20 | 0 | 2 | 1 | 0 | 13 | 19 | 1 | 2 | 0 | 0 |

for experimentation which is rather difficult to secure in the regular academic year. Without attention to its unique possibilities, the summer session will limit its field of service. In spite of criticisms of superficiality and laxity of mental discipline in the summer sessions, every effort should be made to keep it free from domination by tradition. Adaptation of offerings and emphasis on the practical values of the professional courses in terms of the needs of teachers in service are essential principles of summer session organization. The opportunity to experiment with educational methodology and educational content is a real challenge to the summer session directors.



Drawing by Robert O. Eckel, Boys' Technical High School, Milwaukee, Wis. Instructor, R. E. Cote

By SABRA W. VOUGHT
Librarian, Office of Education

"How 135 superintendents reduced school costs" is reported in School Executives Magazine for February, by T. V. Goodrich. A questionnaire was sent out asking for specific illustrations of how expenditures were reduced without adversely affecting the educational program. The answers here reported merit the consideration of others who are facing the problem of reducing budgets.

*** The Elementary School Journal for February, 1932, carries the full text of the bill introduced in Congress to

"carry into effect practically all the recommendations of the National Advisory Committee on Education." This same number has also the Office of Education summary statement concerning education in this country during 1931. *** "The portrait of an intellectual," by John R. Tunis, in Harpers for March, is a type study of an American college professor. The author contrasts the modern college and its professors with the old-fashioned colleges in which the faculty and students were more intimately associated, and where culture, rather than high-powered salesmanship, was an important object of the curriculum. *** "When the doctor prescribes books" the librarian should know the kinds of books best adapted to the patient. Catherine P. Walker, United States Army librarian, Atlanta, Ga., presents a "psychological symptomatology advocated to aid in bibliotherapy" in American Journal of Public Health for February. *** An interesting short article on "How Germans study" appears in The Princeton Alumni Weekly for February 12. The author, James H. Breasted, jr., '32, contrasts the American plan of prescribed reading with the German free reading.

*** A rather strong argument against "Educational tours for high-school seniors" appears in School Review for March. J. M. Clifford, principal of the high school at Romeo, Mich., has had long experience with these tours, and he presents several cogent arguments against the practice. *** With a growing sense of democracy and nationalism developing in China, a reformation of the Chinese educational system is making fairly rapid progress.

An account of "China's educational plans," by Edgar W. Knight, of the University of North Carolina, appears in the High School Journal for February.

*** The encouragement of creative literary effort on the part of high-school students has advanced another step. In February there appeared the first number of the American High School Journal. Its purpose is to offer to high-school students throughout the country an opportunity to print their own creative writings; also to prove to the public that these students have real ability and genius in forceful expression.

*** Since Melvil Dewey's death in December, two excellent articles about him have appeared. A memorial supplement to the February issue of Library Journal contained an account of his life and work, illustrated by two portraits. In the Wilson Bulletin for March, Dorkas Fellows sketches briefly his active life and his invaluable contributions. *** An interesting article on the elementary school library in Louisiana, by G. O. Houston, appears in the Journal of the Louisiana Teachers Association for March. The plan of supplying books to the elementary school libraries is described and some excellent suggestions are given for promotion of this service. *** The subject of the February issue of Progressive Education is "New trends in Indian education." Schools for Eskimos and Mexican Indians as well as for the Indians of the United States are discussed. The list of writers of the articles includes such distinguished authors as Oliver La Farge, Julian S. Huxley, and Mary Austin. Excellent illustrations add much value.

Uncle Sam's China and Japan Teaching Aids

By Margaret F. Ryan

Editorial Division, Office of Education

WITH the eyes of the world focused on China and Japan and newspapers carrying screamer headlines on each new development in the Far East, we feel the urge to know more about these two nations. For authoritative, unbiased information, what better place to turn than to the United States Government.

Maps help us to get our bearings. The Hydrographic Office of the Navy Department publishes two maps covering the area of recent fighting; one, 30 by 42 inches, of the Hwangpoo River (Woo-sung River) showing international settlement roads and names of commercial concerns occupying each of the wharves along the Hwangpoo River. Price 50 cents.¹ The other map, 48 by 34 inches, shows the Yangtze River from Shanghai to Nanking. Price 60 cents.

The State Department has published a map of Manchuria and adjacent regions (Map series No. 2, Publication No. 276), showing the railways and principal motor routes. This map 30 by 30 inches, contains an index of the hundreds of geographic names seen frequently in news reports. Price 20 cents.

But the best map of all—one which shows China, Japan, and Manchuria—is to be found folded at the back of "Motor Roads in China" (Bureau of Foreign and Domestic Commerce, Trade Promotion Series No. 120). This 132-page bulletin (30 cents) contains 48 illustrations which give a fairly good idea of Chinese roads, modes of transportation, customs, and clothing. The map alone is worth the price of the bulletin.

From maps let us turn to some of the treaties and agreements which exist between China and Japan and the other nations of the world. The State Department, in what is known as its Treaty Series—the official texts of treaties and conventions entered into between the United States and other powers, and published as soon as they have been ratified by and with the advice and consent of the Senate and have been proclaimed by the President—has published the following pamphlets, any one of which may be purchased from the Superintendent of Documents at 5 cents per copy: Exchange of notes between the United States and Japan canceling the

Lansing-Ishii agreement of November 2, 1917 (No. 667); Treaty between the United States, the British Empire, France, and Japan relating to their insular possessions and insular dominions in the region of the Pacific Ocean (No. 669); Agreement between the United States, the British Empire, France and Japan—supplementary to the treaty of December 13, 1921 (No. 670); Agreement between the United States and Japan—Arbitration (No. 683); Treaty between the United States, Belgium, the British Empire, China, France, Italy, Japan, the Netherlands, and Portugal regarding principles and policies to be followed in matters concerning China (No. 723); Treaty between the United States, Belgium, the British Empire, China, France, Italy, Japan, the Netherlands, and Portugal relating to the revision of the Chinese customs tariff (No. 724); and the Treaty between the United States and China regulating tariff relations (No. 773).

Now that we have touched upon the geographic and historical side, let us see what is available on the social and economic. "Labor conditions of women and children in Japan" (Bureau of Labor Statistics, Bulletin No. 558) presents conditions in the textile factories of Japan. Price 20 cents.

The Bureau of Foreign and Domestic Commerce, however, makes the largest contribution with its "Commerce Yearbook—1931, Volume II—Foreign Countries," giving comparative data for 78 foreign countries. This book, containing 750 pages, 18 maps, and 47 charts, bound in buckram (\$1), is an invaluable supplement to school textbooks.

"China—A Commercial and Industrial Handbook," by Julean Arnold, a bound volume of 818 pages with 25 illustrations and a folding map like that in "Motor Roads in China," is another valuable source book. Price, \$1.75.

"Commercial Travelers' Guide to the Far East" (Trade Promotion Series No. 29, price 85 cents) contains information valuable also to geography and social science classes. Bound in buckram; it contains 384 pages and 23 maps.

As a result of the numerous requests for publications on Japanese and Chinese finance the Bureau of Foreign and Domestic Commerce has compiled a list of 10 publications covering currency, banking, international payments, and Amer-

ican investments abroad. Six of the 10 publications cost but 10 cents apiece. A list of these publications will be forwarded upon request to that office.

If further information on these two countries is desired, titles and prices of numerous other publications may be found in price list No. 65, "Foreign Relations of the United States," copies of which will be sent free upon application to the Superintendent of Documents. Additional information may also be found in "Publications of the Bureau of Foreign and Domestic Commerce," a copy of which is free for the asking.

The Westing-School-House

(Continued from page 149)

- (a) Find the approximate amount of water flowing through the aqueduct in gallons per minute.
- (b) Find the flow per day, in cubic feet.
- (c) How much electrical power could be generated if the average head of water is 50 feet?
- (d) Design a device which would regulate the flow of the salt solution from the barrel.

There are in the Westinghouse Technical Night School few rules and practically no problems of discipline. A problem of individual development, built around natural interests, needs no compulsory regulation in order to obtain a high average of attendance. The students take the initiative to see that the teachers are able, rather than the reverse. Vocational guidance naturally takes care of itself. There is practically no problem of placing graduates as they have been earning their way in the local industries throughout the course and they have received promotions from time to time as their abilities have warranted.

Perhaps the most important result of the working out of the plan is that the subjects taught become relatively unimportant as compared with the method of instruction and the personality and ability of the teacher. The student learns to think and do. The teacher learns to lead and to inspire.

A prominent educator speaking recently before the Chamber of Commerce of Pittsburgh said, "Industry is beginning to realize more and more that efficiency without idealism is fatal. Our schools, on the other hand, are beginning to realize that idealism without efficiency is futile."

The principle of mass production has offered some advantages in industry. There is no good reason to believe, however, that this principle can be effectively applied in the field of human relations, and it may reasonably be questioned whether even in the favorable environment of our best schools there is any other kind of education than self-education.

¹ Where the price is given the publication may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C.



Courtesy of Longmans

FROM "PIGTAIL OF LEE AH BEN LOO"

Children's Books that Adults Enjoy

Selected by the Children's Literature Class, School of Library Science, University of North Carolina

MOST PARENTS enjoy reading to their children, but such delightful family explorations of the world of books are frequently disrupted when father, drawing a deep sigh of resignation, takes junior on his lap and rattles through some childish, sugary story that his young son dearly loves.

Believing that there are a number of books equally enjoyable to adults and children, we asked Miss Nora Buest to interest her class in children's literature in selecting 25 such books.

"The class enjoyed working on the list," writes Miss Buest. "It was difficult to limit the number of titles, for there were many other books that might have been selected. The students believe, however, that the list is representative of various types, old and new, that are pursued with pleasure by both adults and children."

Reprints of this list may be obtained free of charge from the Office of Education, Department of the Interior.—EDITOR.

Little Women. By Louisa M. Alcott, with illustration by Jessie W. Smith. Little. \$2.

The youth of Meg, Jo, Beth, and Amy is delineated with such a degree of realism that adults in reading the story relive vicariously the experiences of early days.

Fairy Tales. By Hans C. Andersen; translated by Mrs. E. Lucas and illustrated by Thomas, Charles, and William Robinson. Dutton. \$2.

When the foibles of man are described with humor and keen analysis in the guise of a nursery tale by a master story-teller the group of listeners grows to include all ages.

Waterless Mountain. By Laura A. Armer, with illustrations by Sidney and Laura A. Armer. Longmans. \$3.

A story of the Navahos written in a simple style that is well suited to revealing the beauty and mysticism of Younger Brother and his priestly Uncle.

Winged Horse; the story of the poets and their poetry. By Joseph Auslander and Frank E. Hill, with illustrations by Paul Honoré and a bibliography by Theresa W. Elmendorf. Doubleday. \$3.50.

Any grown-ups who have thought that poetry does not belong to the ordinary reader but still have a desire to find out if poetry contains an element of magic, will find this an excellent introduction into the "world of rhythmic delight."

Peter Pan and Wendy. By James M. Barrie, with illustrations by Mabel L. Atwell. Scribner. \$2.50.

All who have believed in fairies will turn again and again to Peter Pan and the tale of "the gay and innocent and heartless people who can fly to the Neverland."

Pigtail of Lee Ah Ben Loo; with 17 other laughable tales and 200 comical silhouettes. Told and illustrated by John Bennett. Longmans. \$3.50.

Stories humorous and sprightly in verse and prose that are profusely illustrated with expressive pictures.

Joan of Arc. Told and illustrated by Louis M. Boutet de Monvel. Century. \$4.

What satisfaction it is to return to a favorite book after many years to find it even more beautiful than the image stamped on the memory. The technique, the coloring, the careful attention to historical accuracy, a high type of imagination all combine to produce this reaction when the reader opens "Joan of Arc."



Courtesy of Warne

FROM "A ROUNDABOUT TURN"

Alice's Adventures in Wonderland By Lewis Carroll, with illustrations by John Tenniel. Macmillan. \$1.75.

Alice has never ceased to enchant all ages.

A Roundabout Turn. By Robert H. Charles, with drawings by L. Leslie Brooke. Warne. \$1.50.

A humorous account of a toad that is moved by curiosity to see the world. He finds it the "Roundest place I ever was in!" Only Leslie Brooke could have made the illustrations.

Cat Who Went to Heaven. By Elizabeth Coatsworth, with pictures by Lynd Ward. Macmillan. \$2.

A young artist who has a very devoted old house-keeper finds himself the owner of "Good Fortune," a cat that is three-colored. "She is like a white flower on which butterflies of two kinds have alighted." The opportunity to paint a picture of the Buddha is the theme into which is woven a range of human emotions and much beauty. The illustrations typify the lifelike quality of the author's story.

The Christ Child. Told by Matthew and Luke, with illustrations by Maud and Mishka Petersham. Doubleday. \$2.

The illustrations for the appropriate Bible texts that tell of the Christ Child are reproductions that kindle reverence in the supernatural and a kindly feeling of friendship for the human.

Peacock Pie. By Walter De La Mare, with illustrations by Heath Robinson. Holt. \$2.50.

The beauty of the imagery casts a spell that reaches beyond the years of childhood:

"I heard a horseman
Ride over the hill;
The moon shone clear
The night was still;
His helm was silver
And pale was he
And the horse he rode
Was of ivory."

Calico Bush. By Rachel Field, engravings on wood by Allen Lewis Macmillan. \$2.50.

The character of Marguerite Ledoux, a bound-out girl, is developed against a background of rigorous pioneer days in the Maine of 1743 with a nice balance of factual and dramatic elements that made a successful "sectional" story.

Goldsmith of Florence; a book of great craftsmen. By Katharine Gibson, with decorations by Kalman Kubinyi. Macmillan. \$5.

Stories of the development of the arts and crafts as explained by such artists as Della Robbia, Cellini, and Paul Revere are told in simple dignified prose. The rich text is embellished with illustrations and photographic reproductions of unusual beauty and significance.

Wind in the Willows. By Kenneth Grahame, with illustrations by Nancy Bainhart. Scribner. \$2.50.

The adventures of Mr. Toad, Water Rat, Mr. Mole, and the Badger in the alteration of Mr. Toad are made doubly interesting through the humor that leads the reader to chuckle about the commonplace practices of humans as they are enacted by this company of animals.



Courtesy of Scribners

SMOKY, THE COWHORSE

Uncle Remus; his songs and sayings. By Joel C. Harris, with illustrations by A. B. Frost. Appleton. \$2.

The famous "Tar Baby," together with the other stories of Br'er Fox and Br'er Rabbit and Miss Meadows an de gals, are wonder tales that always produce a smile.

The World We Live in and How It Came to Be. By Gertrude Hartman, with many illustrations from contemporary Sources. Macmillan. \$5.

An authoritative interesting account of how the world began and how man has progressed through his ability to use the resources of his environment. Excellent bibliographies that lead to further reading.

Smoky, the Cowhorse. Written and illustrated by Will James. Scribner. \$2.

A mouse-colored cow pony's experiences on the western plains is told in cowboy vernacular.

Trumpeter of Krakow, a tale of the fifteenth century. By Eric P. Kelly, with illustrations by Angela Pruszyńska. Macmillan. \$2.50.

An illusion of Poland in the fifteenth century is constantly maintained in the stirring account of the faithfulness of a family that had taken the oath to guard a precious jewel for the King of Poland.

Just So Stories. By Rudyard Kipling, with illustrations by J. M. Gleeson. Doubleday. \$2.50.

As long as the impulse that stimulates "satiable curiosity" is active the fanciful tales of "How" will be treasured.

Story of Doctor Dolittle. Written and illustrated by Hugh Lofting. Stokes. \$2.

A highly imaginative nonsense story that tells of the peculiar actions of the doctor who "likes the animals better than the 'best people.'"

Winnie-the-Pooh. By Alan A. Milne, with illustrations by Ernest H. Sheppard. Dutton. \$2.

A thread of genial philosophy runs through the delightful nonsense stories of Winnie-the-Pooh, Eeyore, Kanga, Piglet, and Christopher Robin.

Early Moon. By Carl Sandburg, with illustrations by James Daugherty. Harcourt. \$2.50.

The short talk on poetry by the author that prefaces the volume will enlighten many on their speculations about poetry. The collection is a telling example of how forceful poetry can have its roots in the work-a-day scene.

Wild Animals I Have Known. Written and illustrated by Ernest T. Seton. Scribner. \$2.50.

The readers of these stories are impressed with the author's unusual gift of personally experiencing the episodes to the degree that he conveys similar impressions on his audience. Dramatic illustrations.

Treasure Island. By Robert L. Stevenson, with illustrations by N. C. Wyeth. Scribner. \$2.50.

Hidden treasure, storm and adventure, pirates and buccaneers, are still synonymous with "Treasure Island."

Spartans still exist. Fearing he would be late to school a 12-year old Jersey City boy struck by an automobile refused to admit that he was injured. He sat through an afternoon class, but a school nurse detected his limping in the line of march to go home. Examination revealed a fractured hip. The boy's stoicism may cost him perfect locomotion.

"One of the most pressing needs of the American university to-day is for more radicals and liberals, not the bomb-throwing, flag-waving type of course, but a student who challenges every statement before he accepts it."—E. R. MURROW, president, National Student Federation of America.

Graduation with honorable mention from the University of Illinois School of Pharmacy last year was the accomplishment of a 40-year old mother. One of her sons is already a university student. The other attends a junior high school.

For the construction of a model primary school for boys at Quito, Ecuador, the National Government has appropriated the sum of 90,000 sucres. It will be conducted as an experimental school under the immediate supervision of the Minister of Public Instruction, with the purpose of trying out new pedagogical methods.

One Way to Interest Students in College

Marion C. Early High School, district No. 5, Morrisville, Mo., for a number of years has been experimenting with a college essay contest as a means of getting high-school pupils more interested in higher education after graduation. Students write on "Why I Should Select Some Certain College or University for Some Particular Course." They thus look into college and university programs sufficiently to learn what each higher institution offers and what the requirements are academically and financially. The unique plan stimulates and encourages more high-school students to enter college. Last year Max Ballinger, of Morrisville, won the essay contest prize.



Prevention of Diphtheria

In discussing the prevention of diphtheria, the United States Public Health Service recently pointed out that school children should be taught the dangers of such common practices as putting their fingers in their nose and mouth, of using common drinking cups and towels, and of placing anything in their mouths except food, water, and the toothbrush. The simple and inexpensive procedure of washing the hands before eating should be the universal practice among all school children, the bulletin suggests. The recommendation that all school children under the age of 7 years be given two doses of toxoid with an interval of one month between doses, as a preventive, is also offered to parents, teachers, and school health authorities.



Half of the farm children in South Dakota go to high school, but only about one-third of those who do attend high school come back to the farm, according to a study made by Prof. W. F. Kumelin, in cooperation with the South Dakota bureau of agricultural economics.



Although most wooden schoolhouses in the United States are now painted white, a few generations ago it was customary, especially in New England and other northeastern sections of the country, to paint frame schoolhouses red, not because that color was preferred, but because red paint was cheaper than any other kind obtainable. Thus the little red schoolhouse became the symbol of popular education in general.—NUGGETS OF KNOWLEDGE BY G. W. STIMPSON.



Courtesy Bureau of Fisheries

THE BUREAU OF FISHERIES COOPERATING WITH THE NATIONAL PARK SERVICE IN STOCKING INTERIOR WATERS

Cooperation with other agencies, such as the Forest Service, the National Park Service, and the railroads, is but one of the numerous activities of the Bureau of Fisheries described in "Stocking Interior Waters of the United States," Fishery Circular No. 8, available from the Superintendent of Documents at 10 cents per copy.



New Government Publications Useful to Teachers



Drawing by Charles Sazoma, Boys' Technical High School, Milwaukee, Wis. Instructor, R. E. Cote.

Compiled by MARGARET F. RYAN

Editorial Division, Office of Education

The publications listed may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices stated. Remittances should be made by postal money order, express order, coupons, or check. Currency may be sent at sender's risk.

Notes on the Geography and Geology of Lituya Bay, Alaska. 1931. pp. 117-135, map. (Geological Survey Bulletin 836-B.) 5¢. (Geography; Geology.)

The Port of Detroit, Michigan. 1931. 128 p. illus., fold. maps. (Bureau of Operations, United States Shipping Board, Lake Series No. 2.) 45¢.

Data on the movement of commerce through the port of Detroit, the facilities available for handling the traffic, and the rates and charges applying against it. Contains 5 maps and graphs, and 6 additional illustrations. (Geography; Commerce; Civics.)

Report of the Porto Rico Agricultural Experiment Station, 1930. 50 p., illus. (Department of Agriculture, Office of Experiment Stations.) 10¢.

Reports of the director, the assistant chemist, the horticulturist, the plant breeder, the agriculturist, and the parasitologist connected with the Porto Rico Agricultural Experiment Station. Also a report of the forage crops. (Agriculture; Geography.)

Source Material for the Social and Ceremonial Life of the Choctaw Indians. 1931. 282 p. (Smithsonian Institution, Bureau of American Ethnology, Bulletin 103.) 60¢.

Historical sketch, origin legend, social organization, government, property, crime and punishment, education, marriage, games, war and burial customs, religion

and medicine of the Choctaw Indians. (Ethnology; Sociology; History.)

Shipping and Shipbuilding Subsidies. 1932. 611 p. (Bureau of Foreign and Domestic Commerce, Trade Promotion Series No. 129.) \$1.10.

A study of State aid to the shipping and shipbuilding industries in various countries of the world from 1827 to 1931. (History; Geography; International relations; Commerce; Debating.)

Naturalization, Citizenship, and Expatriation Laws. 1932. 123 p. (Bureau of Naturalization, Naturalization Regulations.) 20¢.

Full text of naturalization, citizenship, and expatriation laws, including law creating the Department of Labor, naturalization rules and regulations, and an outline of the requirements for citizenship by naturalization. (Americanization; Adult education; Debating.)

Zinc and Its Alloys. 1931. 214 p., illus. (Circular of the Bureau of Standards, No. 395.) 70¢.

Deals primarily with the physical properties of zinc and its alloys. Except for a few statistics of production, other features such as methods of manufacture, presence of impurities, etc., are discussed primarily in their relation to these physical properties. The corrosion resistance of zinc, especially as related to its usefulness as a protective coating for steel, is discussed, while particular attention is given to the die-casting alloys and the properties which determine their usefulness industrially. (Geology; Chemistry; Research.)

List of Bulletins of the Agricultural Experiment Stations for the Calendar Years 1929 and 1930. 1932. 88 p. (Department of Agriculture, Miscellaneous Publication No. 128.) 15¢.

Contains a list of the names of the directors of the agricultural experiment stations, a list of the bulletins published by each station, and an author and a subject index. (Agriculture; Libraries.)

Aboriginal Indian Pottery of the Dominican Republic. 1931. 165 p., illus. (United States National Museum Bulletin 156.) 75¢.

Contents: Geography of the Dominican Republic; native tribes and provinces; nonagricultural cave dwellers; historical narratives and archeological field work; elements of form and design in Santo Dominican aboriginal pottery; description of type examples in the national collection; Northern affiliations of Santo Dominican pottery; characterization of divergent pottery groups in the Antilles; Trinidad and South American earthenware types. (Geography; History; Archeology; Ethnology; Art.)

Family Welfare. 1932. 62 p., illus. (Children's Bureau, Separate from Publication No. 209) 15¢.

Summary of expenditures for relief, general family welfare and relief, mothers' aid, and veterans' aid, compiled by the Children's Bureau through the cooperation of community chests and councils and family welfare agencies from reports covering the activities in the field of family welfare during the calendar year 1930 from 38 metropolitan areas, representing 19 States and the District of Columbia. (Sociology; Social case work; Child welfare.)

Stocking Interior Waters of the United States. 1931. 18 p., illus. (Bureau of Fisheries, Fishery Circular No. 8.) 10¢.

Brief description of one of the most important features of the work of the Bureau of Fisheries—species distributed; rescue work; methods of increasing the fish supply; method of distribution; cooperation with various agencies, such as the United States Forest Service, National Parks, and railroads; fish protection; and pollution of streams. (Civics; Zoology; Ichthyology.)

Report of the United States National Museum, 1931. 223 p., illus. (Smithsonian Institution) 25¢. (Civics; Research.)

Price Lists: No. 11, Foods and cooking—Canning, Cold Storage, Home Economics; No. 73, Handy Books. (Government Printing Office.) Free.

Music from the Days of George Washington. 1931. 61 p. (George Washington Bicentennial Commission.) Free.

A collection of patriotic and military tunes, piano and dance music, songs, and operatic airs. The 17 pieces included present a fairly complete cross-section of the secular music that was heard in America during the latter half of Washington's life. (Music; Dancing.)

Organization and Teaching Procedure to be Followed in Evening Agricultural Schools on the Marketing of Wool and Mohair. 1932. 11 p. (Federal Board for Vocational Education, Monograph No. 15) 5¢.

An analysis of the job of marketing is presented in order to give the teacher a general picture of the job, the decisions to be made, and the factors to be considered. Also contains suggested teaching procedures. (Adult education; Vocational education; Agriculture.)

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More than 100 men and women make up the staff of the Office of Education in the United States Department of the Interior. They are constantly engaged in collecting, analyzing, and diffusing information about all phases of education in the United States, its Territories, and in foreign countries.

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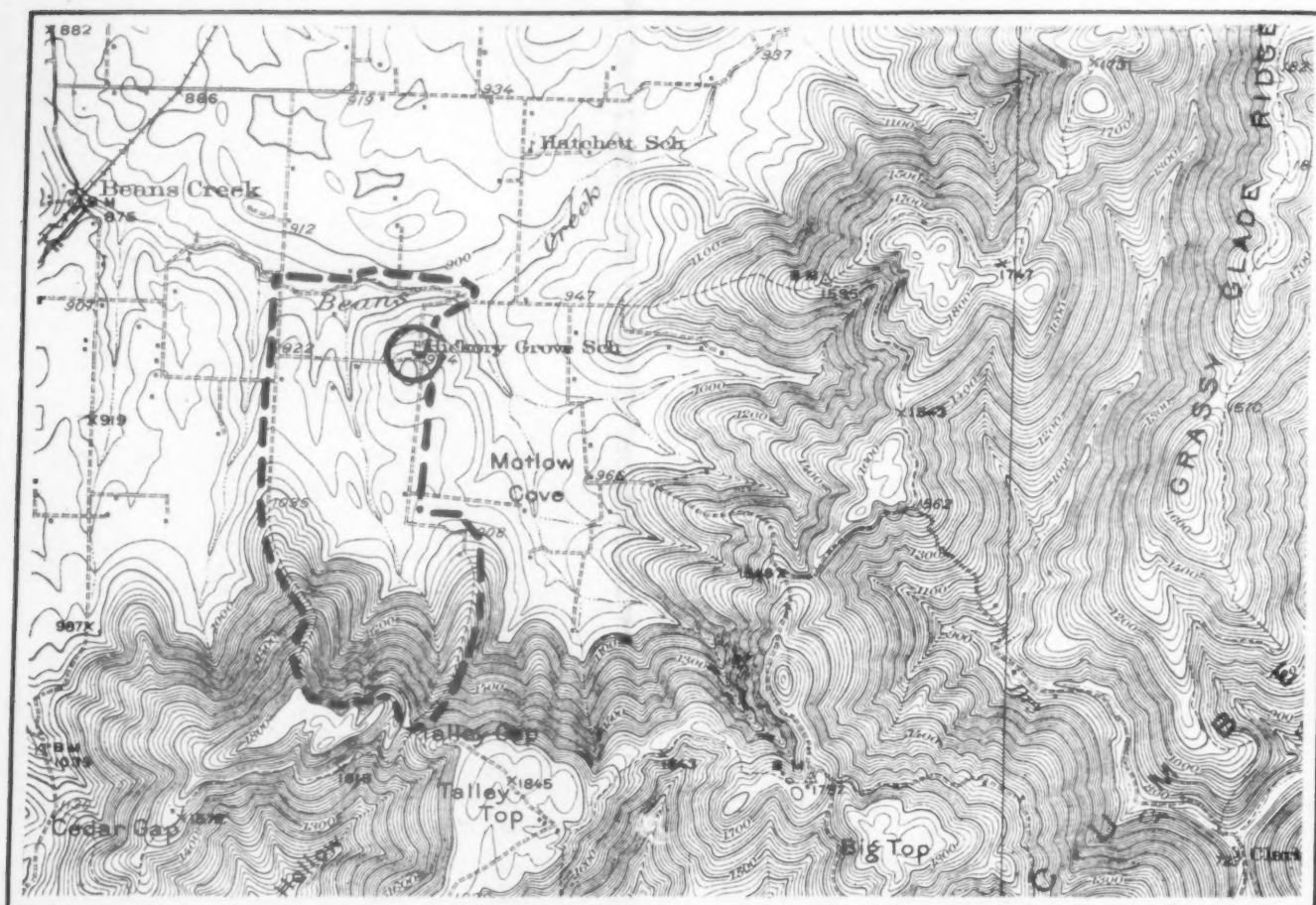
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OFFICE OF EDUCATION
DEPARTMENT OF THE INTERIOR

Where the Class Explored Geography



Courtesy United States Geological Survey

A BRIGHT SPRING DAY, a topographic map, and a class of youngsters eager to get outdoors. Most of the children knew something of the country for miles around but none of them had ever seen it depicted on a map. First they located their schoolhouse by the map's tiny symbol of the flag. Then the teacher explained the brown contour lines—how each one is drawn at a definite height above sea level; how, noting the 20-foot interval shown by the brown lines, they could count 20 feet up or down for each space between contours. They found out how to tell the height of the neighboring hills from the map. Over the hills and down into the valleys they made their way, crossing a bridge over a quiet stream.

EVERYTHING THEY SAW, whether the work of God in shaping the face of the earth or the work of man was shown on the map. Good roads and poor, railroads of every kind, churches, cemeteries, windmills, tanks, all were repre-

sented by symbols on their map. What fun it was to be able to tell by the map what was on the other side of a hill or to know that, half a mile farther on, one would find a field of corn or cotton, a bit of marshland, sand and dunes, or a deep creek which would be difficult to cross.

THE TEACHER TOLD THEM that the topographic maps of the United States Geological Survey together constitute the Mother Map of this country on which all wall maps and geographic atlases are based. Although less than half of the United States has been charted, parts of every State in the Union have been covered by the Survey.

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